CONFIDENTIAL

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES

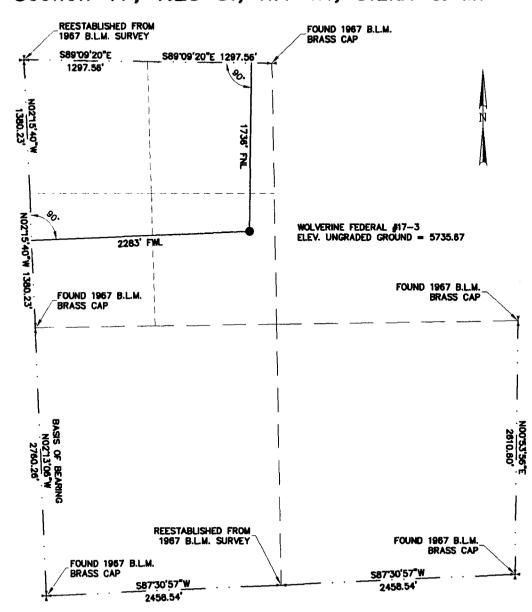
CODM	
FORM	

007

DIVISION OF OIL, GAS AND MINING AMENDED REPORT (highlight changes) 5. MINERAL LEASE NO: 6. SURFACE: APPLICATION FOR PERMIT TO DRILL

	AFFLICATIONTON	PLYMIT I	DIVILL		U1U-73526 Fee
1A. TYPE OF WO	RK: DRILL REENTER	DEEPEN			7. IF INDIAN, ALLOTTEE OR TRIBE NAME:
B. TYPE OF WE	LL: OIL GAS OTHER	SIN	IGLE ZONE MULTIP	PLE ZONE 🗌	8. UNIT OF CA AGREEMENT NAME: Wolverine Fed. Exploration Unit
2. NAME OF OPE					9. WELL NAME and NUMBER:
	Gas and Ol Company of Utah, LLC		PHONE NUMB		Wólverine Federal # 17-3 W. FIELD AND POOL, OR WILDCAT:
3. ADDRESS OF	· · · · · · · · · · · · · · · · · · ·	MI 49	503 (616) 458		Wildcat
	WELL (FOOTAGES)		(3.5)	/	11. QTR/QTR, SECTION, TOWNSHIP, RANGE,
AT CUIDEACE	1,736' FNL & 2,283' FWL -T23S-1	RIW Sec	17 SENW		MERIDIAN:
AT PROPOSED	PRODUCING ZONE 12980' FSL & 660' FWL	-T23S-	RlW,Secl7 Nw	isyo	NWSW 17 23S 1W S
14. DISTANCE IN	MILES AND DIRECTION FROM NEAREST TOWN OR POST	OFFICE:		/	12. COUNTY: 13. STATE:
3.5 miles	South of Sigurd \				Sevier
15. DISTANCE TO	NEAREST PROPERTY OR LEASE LINE (FEET)	16. NUMBER C	F ACRES IN LEASE:	17. N	UMBER OF ACRES ASSIGNED TO THIS WELL:
appr. 200'				236 ac	40
18. DISTANCE TO APPLIED FOR appr. 600'	D NEAREST WELL (DRILLING, COMPLETED, OR R) ON THIS LEASE (FEET)	19. PROPOSEI			ond description: .M # Wy 3329
	(SHOW WHETHER DF, RT, GR, ETC.):	22. APPROXIM	ATE DATE WORK WILL START:		STIMATED DURATION:
5,740' - (GR \	9/15/200	04 /	40	days
24.	PROPOSE	D CASING A	ND CEMENTING PRO	GRAM	
SIZE OF HOLE		ETTING DEPTI	<u></u>		YIELD, AND SLURRY WEIGHT
20	14	80		,	
				40.0	
12 1/2	9 5/8 36 ppf J55 STC \	\ /	lead:c,360sx, 1.78,		tail:g, 280sx, 1.20, 15.6
8 3/4	5 1/2 17 ppf L80 LTC	7,100	lead:Poz, 750sx, 1.7	76, 13.0/tail	l:Poz, 350sx, 1.49 13.4
	/	$\overline{}$			
-	<u> </u>	$\overline{}$		ID	ECEINEU
	* * * * * * * * * * * * * * * * * * *	`	k .		
		· · · · · · · · ·		Ut	AUG - 5 2004
25.	3/3	ATTA	CHMENTS		V. OF OIL GAS & MINING
VERIFY THE FOL	LOWING ARE ATTACHED IN ACCORDANCE WITH THE UTA	AH OIL AND GAS C	ONSERVATION GENERAL RULE		
✓ WELL PL	AT OR MAP PREPARED BY LICENSED SURVEYOR OR ENG	NACE D	COMPLETE DIVILLI	NC OLAN	
	AT OR MAP PREPARED BY DEENSED SURVEYOR OR ENG	SINCER			
X EVIDENC	E OF DIVISION OF WATER RIGHTS APPROVAL FOR USE O	OF WATER	FORM 5, IF OPERA	TOR IS PERSON C	OR COMPANY OTHER THAN THE LEASE OWNER
	///			$\overline{}$	
NAME (PLEASE	Richard Moritz		TITLE Vice Pro	esident, Lan	d & Legal
	Ind Mans			/22/2004	1
SIGNATURE	7000				
(This space for Sta	te use only)		Surf 4	418961X	BHL 418501X
				4295394	Y 4294830 Y
	SIGNED: 43-041-3 0 036				16 17 5 27 1
API NUMBER AS	SIGNED: 7 1-571-3 0 034		APPROVAL:	38.8054	7 38,80041
			•		-
(11/2001)		(See Instruction	ons on Reverse Side)	11.9332	9 .111,93829

Section 17, T.23 S., R.1 W., S.L.B. & M.



BASIS OF BEARINGS

BASIS OF BEARING USED WAS NO2"3"06"W BETWEEN THE SOUTHWEST CORNER AND THE WEST QUARTER CORNER OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.

LATITUDE = 38'48'18.901" (38.805250278) LONGITUDE = -111'56'02.015" (111.933893056)

PROJECT

Wolverine Gas & Oil Company of Utah, LLC.

WELL LOCATION, LOCATED AS SHOWN IN THE SE 1/4 OF THE NW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M. SEVIER COUNTY, UTAH

LEGEND

■ = SECTION CORNERS LOCATED

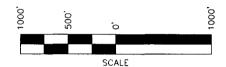
= QUARTER SECTION CORNERS LOCATED

PROPOSED WELL HEAD

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT THE WOLVERINE FEDERAL \$17-3 LOCATION. LOCATED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M. SEVIER COLINTY.

BASIS OF ELEVATION

ELEVATION BASED ON U.S.G.S. BENCH MARK LOCATED IN THE SW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.



CERTIFICATE

THIS IS TO CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION, AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RYAN W. SAVAGE, L.S. #183343

DATE



Jones & DeMille Engineering

1535 South 100 West - Richfield, Utah 84701 Phone (435) 896-8266 Fax (435) 896-8268 www.jonesanddemille.com

Well Location Plat for

Wolverine Gas & Oil Company of Utah, LLC.

DESIGNED	SURVEYED T.W.G.	CHECKED R.W.S.	DRAWN K.B.B.	PROJECT NO.	SHEET NO.
July 2004		DWG.NAME Wells	SCALE 1" =1000'	0406-160	1



United States Department of the Imerior

BUREAU OF LAND MANAGEMENT RICHFIELD FIELD OFFICE 150 East 900 North Richfield, Utah 84701



003 In Reply Refer To:

> 3160 (UT-050)

> > August 10, 2004

Mr. Richard D. Moritz Wolverine Gas and Oil Company of Utah, LLC One Riverfront Plaza 55 Campau NW Grand Rapids, Michigan 49503

Dear Mr. Moritz:

On July 22, 2004, four Applications for Permit to Drill and on July 28, 2004, three additional Applications for Permit to Drill were filed in this office. These seven wells are Wolveine #17-3, 17-4, 17-5, 16-1, 18-1, 19-1, and 20-1 and are on Federal lease UTU-73528. The well pad locations for these wells are in Section 17, T. 23 S., R. 1 W., SLM, Sevier County, Utah. Your applications have been reviewed for completeness in accordance with the provisions of the Federal regulations and the Onshore Oil and Gas Orders.

Based on Onshore Order 1, with the reference to the appropriate section, the following items are missing or need clarification in your applications:

Section III.G. 3, Form 3160-3 or as an attachment:

- c. Type of drilling tools (rotary or cable).
- d. Casing condition (new or used).

Section III.G. 4. a., Drilling Plan:

- (2) The anticipated contents of each geologic structure or stratum (water, oil, gas or other minerals).
- (3) Pressure control schematic.
- (4) As these are exploratory wells, the design factors for each casing string. (See Onshore Order #2, *Drilling Operations*, III. B. Casing and Cementing Requirements.)

Section III.G. 4. b., Surface Use Program:

(3) Location of existing wells. For 17-3, 17-4, 17-5, and 16-1, the Location Map does not show the existing Well 17-2. For 18-1, 19-1, and 20-1, the Location Map does not show the existing well 17-1. Are any water wells within the one-mile parameter of the Order? At the proposed well site for 17-3, 17-4, 17-5, and 16-1, three well pads are shown. Two of the pads are assumed to be

the existing well pad (17-1) and the proposed pad (17-3 and others); however, the third pad is not identified.

- (4) Location of proposed production facilities.
- (5) Location of water supply. Be specific as to the source, if it is non-Federal.
- (9) Well site layout. Living facilities and the orientation of the rig and other facilities are not included on a layout.
- (11) Surface Ownership. The surface ownership of the well and access road shall be indicated. Where the surface of the well is privately owned, the operator shall include the name, address, and phone number, if known, of the surface owner. If privately owned, the existence of an agreement between the operator and owner needs to be provided.

All the above items will be necessary before approval can be granted. All other portions of your application are in place, and we will continue to process your application up to the point the missing information prevents further action.

If future applications are filed, we request that Wolverine Gas and Oil adhere closely to Onshore Order No. 1, Section III. G. Components of a Complete Application for Permit to Drill. In the order, the Drilling Plan and the Surface Plan items are enumerated for ease of reference during both the preparation and the review of a proposal. All these items are required by regulation, and following the outline in the Order will facilitate the review of your applications. Although some items appear unnecessary or outdated, please provide the information. Unless specifically requested, additional information is unnecessary and may lengthen the review time frames.

In addition, the Application for Permit to Drill package does not need to be filed in a binder for the BLM. BLM records are kept in a file folder, so we remove the binder for ease of filing for our record keeping.

If you have any questions, please contact Michael Jackson at (435) 896-1522. Technical questions on the Drilling Plan may be directed to Al McKee at (801) 539-4045.

Sincerely.

Gary L. Hall

Assistant Field Manager



August 18, 2004

Utah Division of Oil, Gas & Mining 1594 W. N. Temple Suite 1210 Salt Lake City, Utah 84114-5801

RE: Wolverine Gas & Oil Company of Utah, LLC requests permission to drill the Wolverine Federal #17-3

Gentlemen:

Pursuant to Rule R649-3-11 of the State's Oil & Gas Conservation regulations, Wolverine Gas & Oil Company of Utah, LLC, hereby makes application for approval to directionally drill an oil & gas well.

Wolverine Gas & Oil Company of Utah, LLC (Wolverine) proposes to drill the Wolverine Federal #17-3 well to a total depth of 7,100 feet and is an exception to Rule R649-3-3. Wolverine is the surface owner as well as the only leasehold operator within a 460 foot radius of the bore hole.

The mountainous terrain of the area is such that directional drilling is the most effective method to minimize surface disturbance. By locating the well pad on a relatively flat surface and drilling a directional well beneath this challenging topography, Wolverine can most effectively minimize surface disturbance and ensure proper utilization of resources.

Attached hereto is a plat as required by the Commissions rules and regulations.

If no objections are filed, the applicant requests that this application be approved. If objections are filed, applicant requests the matter be set for hearing and that it be advised of the hearing date.

Respectfully submitted,

Wolverine Gas & Wil Company of Utah, I

Authorized Agent

RECEIVED

AUG 1 9 2004

DIV. OF OIL, GAS & MINING

005

United States Department of the Interior

BUREAU OF LAND MANAGEMENT Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

August 16, 2004

Memorandum

To:

Field Office Manger, Richfield Field Office

From:

Michael Coulthard, Petroleum Engineer

Subject:

2004 Plan of Development Wolverine Unit Sevier County,

Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2004 within the Wolverine Unit, Sevier County, Utah.

API#

WELL NAME

LOCATION

Sec 17 T23S R01W 1980 FNL 0660 FEL

(Proposed PZ Navajo) 43-041-30032 Wolverine Federal 20-1 Sec 17 T23S R01W 0833 FSL 1925 FWL Sec 20 T23S R01W 0660 FNL 0660 FWL 43-041-30033 Wolverine Federal 19-1 Sec 17 T23S R01W 0857 FSL 1919 FWL Sec 19 T23S R01W 0660 FNL 0660 FEL 43-041-30034 Wolverine Federal 18-1 Sec 17 T23S R01W 0845 FSL 1922 FWL BHL Sec 18 T23S R01W 0660 FSL 0660 FEL 43-041-30035 Wolverine Federal 17-4 Sec 17 T23S R01W 1736 FNL 2298 FWL Sec 17 T23S R01W 1980 FSL 1980 FEL 43-041-30036 Wolverine Federal 17-3 Sec 17 T23S R01W 1736 FNL 2283 FWL Sec 17 T23S R01W 1980 FSL 0660 FWL BHL 16-1 Sec 17 T23S R01W 1736 FNL 2253 FWL 43-041-30037 Wolverine State Sec 16 T23S R01W 0660 FNL 0660 FWL BHL 43-041-30038 Wolverine Federal 17-5 Sec 17 T23S R01W 1736 FNL 2268 FWL

BHL

PROJECT PLAN OF DEVELOPMENT AND MASTER SURFACE USE PLAN

Wolverine FEDERAL #17-3

NAME OF APPLICANT:

Wolverine Gas and Oil Company of Utah,

LLC

One Riverfront Plaza, 55 Campau NW Grand Rapids, Michigan 49503-2616

PROJECT NAME:

"Wolverine Federal #17-3"

NW/SW of Section 17

Township 23 South - Range 1 West

ATTACHMENTS:

A.) Project Map/Survey

B.) Well Site Location Layout

C.) Typical Cross Sections (Cut and Fill)D.) Wildlife & Vegetative Species of

Concern Summary

E.) Cultural Resource Survey Report

I. DESCRIPTION OF PROJECT:

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) proposes to drill and explore for hydrocarbons, using a directional drilling program, from the Navajo Formation at depths of approximately 4,810' – 7,036' and approximately 8,062' – 9,100' within the Wolverine Federal Exploration Unit situated in Sevier County, Utah:

TOWNSHIP 23 SOUTH, RANGE 1 WEST

Northwest Quarter of Southwest Quarter (NW/SW) of Section 17

Project Plan of Develonient & Surface Use Plan Wolverine Gas & Oil Company of Utah, LLC Wolverine Federal #17-3

Well Name & No.	Target	Elev.	Location	TD	Footages
LEASE # UTU-73528					
Wolverine Federal #17-3	Navajo 1 and 2	5,736'	NW SW Sec 17, T23S-R1W	7,100	1,680' FNL; 2,291' FWL

The attached Project Map (Attachment A) indicates the proposed well site and its intended configuration. Additionally, the existing access route is indicated. This well is being drilled within the "Wolverine Federal Exploration Unit" and upon privately owned surface.

Mineral rights within the Wolverine Federal Exploration Unit are owned by a variety of interests and are federally owned at the target bottom-hole location for this proposed well. The proposed surface plan will be reviewed and inspected by the appropriate regulatory agencies, state and federal, to ensure proper utilization of the surface reflecting an effort by Wolverine to minimize surface disturbance and waste. Appropriate Onshore Oil and Gas Orders and those of the Utah Division of Oil, Gas and Mining will be followed in the constructing, drilling, completion, operation, plugging and surface reclamation of this well.

The project is situated within an area that is referred to by the Utah Division of Oil, Gas and Mining (Statement of Basis, Kings Meadow Ranches 17-1, October 21, 2003) as "... placed in the High Plateaus section of the Colorado Plateau physiographic province in western central Utah. Some people have characterized this area as being in the Basin and Range – Colorado Plateau transition zone." The drill site itself is located in a flat area between steep hills and is contiguous to Highway 24 from which access to this site will be established. The flat area is dominated by sagebrush – grass communities and the nearby hillsides are dominated by Pinyon Pine – Juniper communities. The access route consists of an improved driveway off from Highway 24 entering onto the well site. BLM road construction standards will be adhered to as new improvements are constructed.

Wolverine's proposed "Wolverine Federal #17-3" project is most easily accessible from Sigurd, Utah. From Sigurd, one would drive down Highway 24 heading east/southeasterly. At mile marker 13, drive approximately 0.6 miles and turn easterly onto the existing access road driving approximately 200 yards to the proposed well pad location.

Surface water is located in the area primarily in the form of the Sevier River, in the Peterson Creek drainage, a tributary of Brine Creek. Local springs arising from the volcanic rocks and ephemeral drainages also exist in the area including a drainage way situated along Highway 24. The Sevier River is approximately three (3) miles west of this proposed location.

Project Plan of Devel uent & Surface Use Plan Wolverine Gas & Oil Company of Utah, LLC Wolverine Federal #17-3

Geology and Soil Types

Again quoting from the "Division of Oil, Gas and Mining, Statement of Basis, Kings Meadow Ranches 17-1", the well "...will likely spud into a thin alluvium covering the evaporate-rich Jurassic age Arapien shale." "The Arapien Shale may have been somewhat intruded or elevated into the area between the Sevier Fault and the considerable parallel secondary faulting mapped in the Cedar Mountain – Black Mountain area..." It is anticipated that from surface to approximately 400 feet in depth, the lithology of the Quaternary will consist of unconsolidated sediments.

The soil type classified at the Wolverine Federal #17-3 wellsite is the Billings silty clay loam. This soil type is a fine-silty, mixed calcareous, mesic Typic Torrifluvents and is usually found in areas containing two (2) to five (5) percent slopes. The soil is a deep, drained, silty clay loam. It features a light gray, moderately alkaline, strongly calcareous, silty clay loam surface soil that is approximately ten (10) inches thick. The subsoils consist of a light gray, moderately alkaline, friable, silty clay loam approximately 32 inches thick. The substrate material is a light gray, moderately alkaline, friable, silty clay loam with a small amount of gypsum veining.

Assuming that the drilling and completion of this well results in its ability to commercially produce hydrocarbons, appropriate market connections will be made upon proper permitting of such activities by all agencies having jurisdiction over said activities.

II. SOIL EROSION CONTROL MEASURES:

The well pad will be sloped at about 1%, in the direction of the site's drainage so as to provide for a well-drained work area during drilling operations. Appropriate collection and infiltration basins will be constructed in the sloped area of the drill pad.

In all fill areas, the edges shall be diked to control run off.

Appropriate drill site drainage and sedimentation control measures will be incorporated in the operational plan. These may include utilization of earthen dikes along the fill portion of the drilling pad perimeter, stabilization of slopes as needed, location of the reserve pits in the cut portion of the drilling pad and the pad constructed so as to slope toward a collection and infiltration basin. Construction of the drill site shall be in accordance with the regulations and stipulations as defined by the State of Utah, Department of Natural Resources, Division of Water Rights.

Reclamation of the site will be in accordance with Best Management Practices and requirements of the Bureau of Land Management.

III. EXISTING ACCESS ROADS AND ROAD IMPROVEMENTS

The existing access road is identified and labeled on the project map. Steep, rough topography is not identified as a problem along our access route which was constructed by initially using fill material and covering it with approximately eight (8) inches of shale/gravel. Another layer of road base material, approximately four (4) inches in depth, was placed on top of the shale/gravel.

IV. LOCATION OF EXISTING WELLS

The recently drilled "King Meadow Ranches 17-1" well is situated approximately 200 yards southwesterly of this proposed well site location and is situated in the Southeast Quarter of the Northwest Quarter (SE/NW) of Section 17, Township 23 South, Range 1 West, Sevier County, Utah. "Wolverine Federal 17-2" is located approximately one-half mile southerly of this proposed well site and is situated in the Southeast Quarter of the Southwest Quarter (SE/SW) of Section 17, Township 23 South, Range 1 West, Sevier County, Utah.

V. DRILLING METHOD

Wolverine proposes to use a directional drilling program for the Wolverine Federal #17-3. The mountainous terrain of the area is such that directional drilling is the most efficient method to minimize surface disturbance. By locating the well pad on a relatively flat surface, and drilling a directional well beneath this challenging topography, Wolverine can most effectively minimize surface disturbance and ensure proper utilization of resources.

VI. LOCATION AND TYPE OF WATER SUPPLY

Water for drilling the Wolverine Federal #17-3 will be purchased from water wells nearby or drilled on location and pumped into storage tanks at the site. Water for drilling from nearby well(s) will be hauled to location and stored in storage tanks on the drill site. Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

VII. CONSTRUCTION MATERIALS

In most circumstances, natural earth materials were used for the construction of roads and fills. These were taken from locations essentially contiguous to or nearby the locations to be improved. When necessary, road base materials were used and delivered

Project Plan of Develoneent & Surface Use Plan Wolverine Gas & Oil Company of Utah, LLC Wolverine Federal #17-3

by the contractor for application on site and specifically as the initial fill material for the access road, which was then covered with approximately eight (8) inches of shale/gravel.

VIII. METHODS FOR HANDLING WASTE

The Reserve Pit will be dug on the well pad per the attached Well Site Location Layout (Attachment B). It will be used for the disposal of waste mud and drill cuttings and will be located on the south portion of the well site plan. The pit will be 100 feet X 240 feet and will be 10 feet deep. The pit will be lined with a synthetic liner having a minimum thickness of 12 mills and if the reserve pit is built in rock, geotextile or some other material approved by the Division of Oil, Gas and Mining shall be utilized. The Division of Oil, Gas and Mining shall be notified prior to lining the reserve pit in order to allow for Division inspection. Rules pursuant to R649-3-16 will be followed regarding the reserve pit as well as those governing Onshore Oil and Gas Operations (43 CFR 3160.)

Upon evaporation of fluids, pit closure occurs with the back fill of soil and its compaction to prevent settling. The usage of the pit is further described in the section VIII under pit closure.

All garbage will be taken off site and disposed of properly. Pursuant to R649-3-14, all rubbish and debris shall be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling and completion operations and as needed during such operations. There will be no chemical disposal of any type. Sewage is handled through the renting of portable toilets. These are serviced by the rental company and removed from site when no longer required.

IX. PLANS FOR RECLAMATION OF THE SURFACE

Pit closure: The pits will be fenced on three sides during all drilling operations and then the fourth side will be immediately fenced when the rig is moved off location. After evaporation of fluids, back-fill of sub-soil and compaction to prevent settling will occur within 90 days of the drilling and completing of the well. If necessary after 90 days, the fluids will be sucked out of the pit and transported off site.

The topsoil will be stripped off and stock piled in an area not to be disturbed. The topsoil will be placed back on the pit after back filling and then prepped for re-seeding.

The approximate Pit size is indicated on the Well Site Location Layout diagram attached hereto (Attachment B).

Revegetation Methods: Disturbed areas will be disked, seeded and "dragged", as needed; seeding with a mixture approved by the local USDA Natural Resource Conservation Service or the Bureau of Land Management.

Wolverine generally requires at least twelve (12) pounds per acre of seed distribution. Wolverine suggests that autumn seeding practices be used due to the terrain in this project area. Spring rain events are common and tend to cause severe run-off. Fall seeding will allow any moisture, whether rain or snow, to assist the seed into the ground.

Other Practices: Other practices that will be utilized to reclaim disturbed areas will include riprap when and if necessary to prevent erosion and the installation of silt fencing in sensitive and/or erosive areas.

<u>Timetable:</u> Reclamation of the surface will commence as soon thereafter construction, drilling and well completion are concluded, as is practicable, depending on weather. In the event of a dry hole, the drill site and roadways will be restored to their original condition as nearly as practicable within 180 days after plugging date of the well.

X. SURFACE OWNERSHIP

The surface of the proposed well site is privately owned.

XI. WELLSITE LAYOUT

Please see the attached "Well Site Location Layout" (Attachment B) for the well configurations.

XII. PIPELINES AND STREAM CROSSINGS

PIPELINES: In the event of hydrocarbon production requiring transmission by pipeline, the proposed pipeline(s) will be designed, constructed, tested, operated and maintained in accordance with standard safety practices and by a combination of construction techniques intended to minimize to the greatest extent practical the impacts upon natural resources.

Pipelines will typically be installed by trenching. In these trenched areas, the contractor shall strip and stockpile topsoil to be replaced over the backfill portion upon completion of construction operations. Silt fencing will be installed at all stream crossings.

The proposed pipelines will be constructed with a combination of methods intended to minimize impacts to private, state and federally owned property, county roads

Project Plan of Development & Surface Use Plan Wolverine Gas & Oil Company of Utah, LLC Wolverine Federal #17-3

and natural resources. The pipeline will be constructed by a combination of conventional construction techniques and special measures designed to minimize impacts to natural resources. Pipelines will be adequately compacted before the topsoil is replaced for reseeding.

In general and where required, soil erosion control measures will consist of appropriate BMPs (Best Management Practices) to reduce the potential for erosion. The BMPs that will be utilized in upland areas include use of construction barriers where appropriate, land clearing, spoil piles, staging and scheduling, seeding and mulching. Note that spoil piles will not typically be seeded since exposure of the spoil piles should be minimal in time. All other proper BMP measures will be implemented to reduce the potential for erosion. Seeding of all raw soils after burial of pipe will be performed. However, mulching will be performed only within state or county road right-of-ways.

Generally speaking, in wetlands, appropriate BMPs will be implemented to minimize the potential for soil erosion within wetland construction zones. These measures shall include, but not be limited to, clearing, barriers, staging, filters, silt fencing, spoil piles, dewatering, seeding, and mulching.

XIII. GENERAL

TIMELINE: The following is a general order of construction and sequence of earth change by which our operations will proceed:

- 1.) Access Road and Well Pad Construction
- 2.) Drilling and Well Completion Operations
- 3.) Initial Well Pad Restoration
- 4.) Clearing of Pipeline Rights-of-way (if needed)
- 5.) Delivery and Layout of Pipe
- 6.) Pipe Welding and Inspection
- 7.) Trenching of Pipe
- 8.) Placement and Burying of Pipe
- 9.) Final Restoration of Site/Access/Pipeline Route
- 10.) Re-Seeding

Project Plan of Develongent & Surface Use Plan Wolverine Gas & Oil Company of Utah, LLC Wolverine Federal #17-3

All hillsides, creek banks, and other places where contractor has moved earth to facilitate operations shall be restored to as near original condition as practical. Replaced material and/or backfill will be protected from erosion to the satisfaction of Wolverine, the Bureau of Land Management and the Utah Division of Oil, Gas and Mining without undue delay.

Upon completion of any backfill, contractor shall clear pipeline rights-of-way and access routes of large rocks, stumps and other debris; fill holes, ruts and depressions, and shall keep the access road in a neat and acceptable condition. All cleanup shall be maintained by the contractor until final acceptance by Wolverine and the enforcing agency.

XIV. ENVIRONMENTAL IMPACT ASSESSMENT:

It is anticipated that the drilling and operations planned, provided the success of this well, will not have any adverse affects to any wildlife or aquatic life in the area. There will be only a minor effect on the surface cover. Drilling and production operations should have minimal effect on the population patterns, land use, public utilities or public services in the near future for this rural area.

Noise levels during drilling and completion operations may be continuous but not unusually high. If production is achieved, noise levels should be minimal during the operation and maintenance of the wells.

Necessary soil erosion and sedimentation safeguards will be built into the well pad, access and future proposed pipeline routes to protect any nearby lowlands, where appropriate. Particular care will be exercised in order that all drain ditches be maintained and kept unobstructed to prevent water backup against spoil banks or backfill, causing erosion. The cumulative long-term effect on the immediate environment should be minimal.

If the well is productive, the effect on the air quality in the area is expected to be practically non-existent. Human activity in this area is somewhat limited, due to the nature of the location. Ranching operations and any activities in the area should not be adversely affected.

The site will then be contoured as closely as practical to its natural state, fine graded and stabilized. The well site and access route will be restored as soon as practical. If a well is productive, existing dikes will be maintained and erosion control procedures, as specified and required by the Bureau of Land Management, will be followed to insure protection of the local ecosystem.

Project Plan of Develo ent & Surface Use Plan Wolverine Gas & Oil Company of Utah, LLC Wolverine Federal #17-3

Cultural

Please see, "Attachment E", Cultural Resource of A Well Pad (A-2) Near Sigurd, Sevier County, Utah.

Wildlife

Please see "Attachment D", a summary of Wildlife and Vegetative Species of Concern.

XV. SUMMARY:

In conclusion, the environmental impact of this project is considered to be minimal and every effort will be made to ensure the protection and preservation of the environment, as well as the standard of living for those affected by its operation.

This proposed project is aimed at increasing the hydrocarbon reserves within the State of Utah. In addition, in the event that production can be established in this project, it will be of financial benefit to the private holders of oil and gas rights within the "Wolverine Federal Exploration Unit", including the Bureau of Land Management in fulfillment of its stewardship responsibilities over federally owned oil and gas assets. We consider the environmental impact of this project to be slight and we will make every effort to be conscientious operators and to insure protection and preservation of the environment during the course of our drilling and producing operations.

Sincerely,

Wolverine Gas and Oil Company of Utah, LAC

By:

Shawn Burd

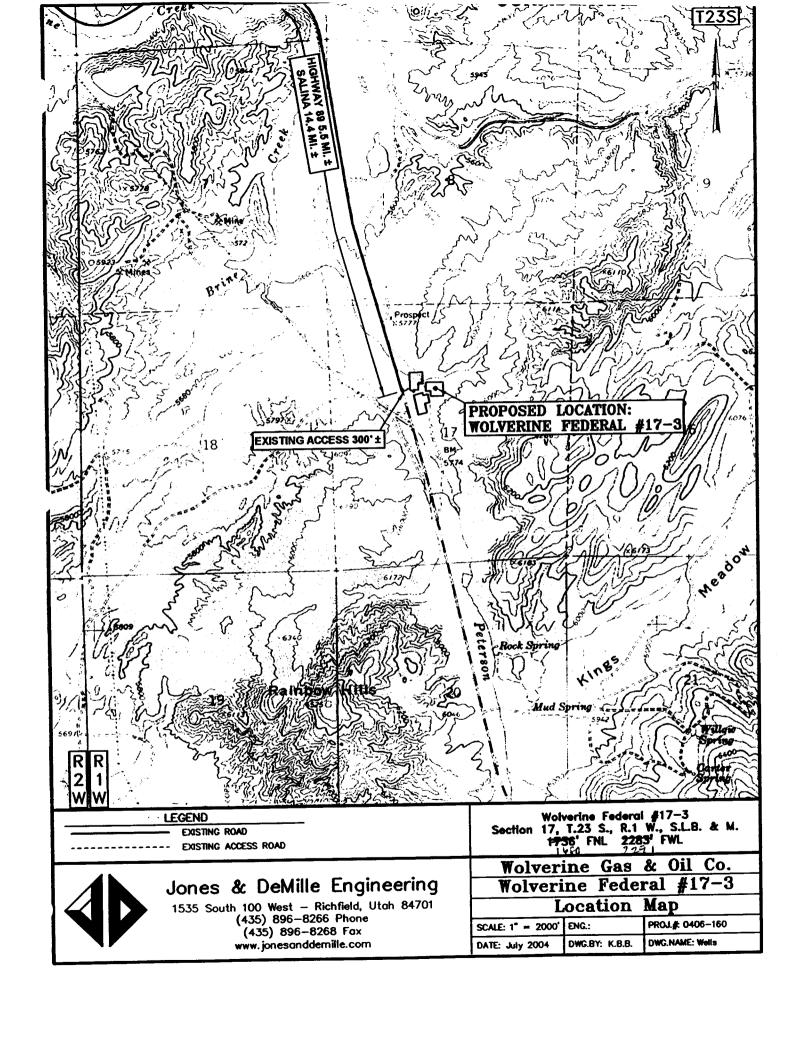
Authorized Permitting Agent:

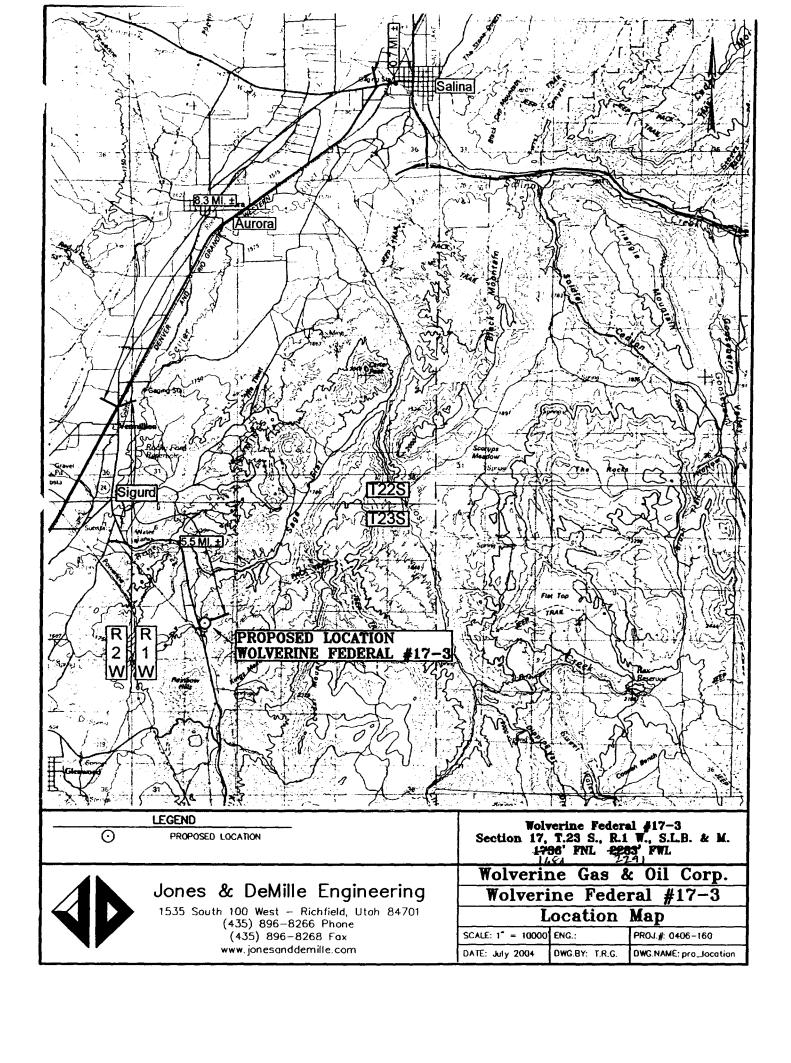
Western Land Services – Western Division 54 West Seymour Street Sheridan, WY 82801 Donald L. Anderson, Chief Operating Officer

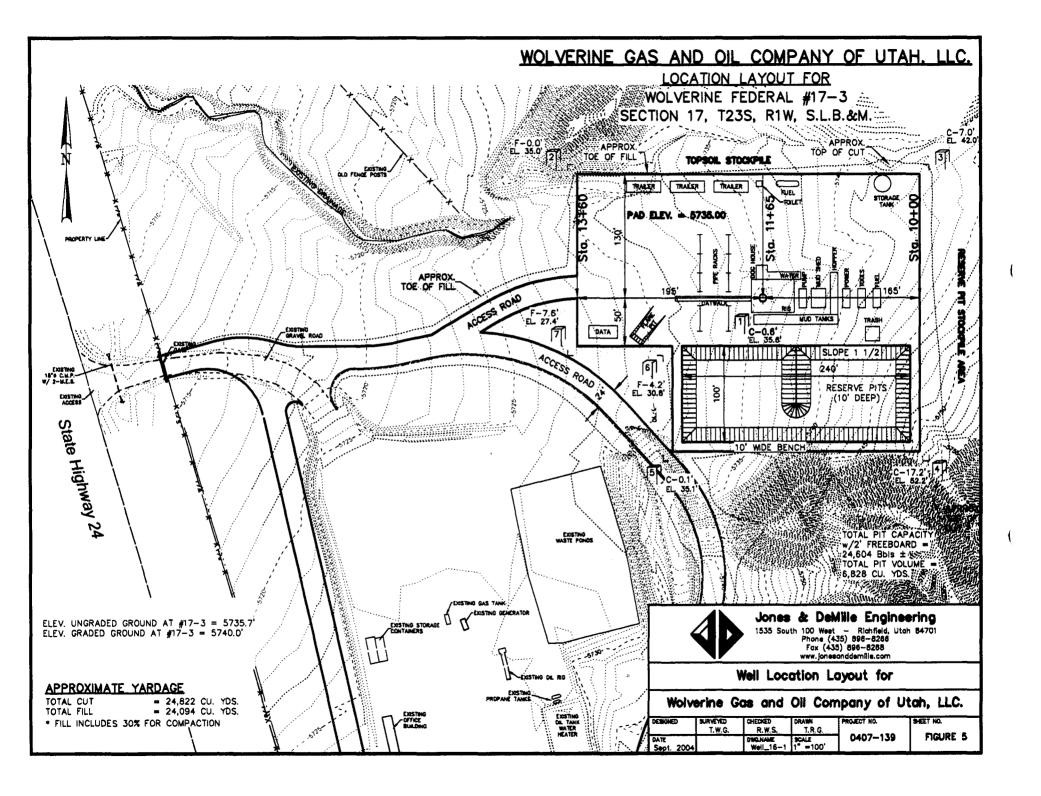
Phone: 307-673-1817

Local Contact: Shawn Burd

Phone: 435-896-1943

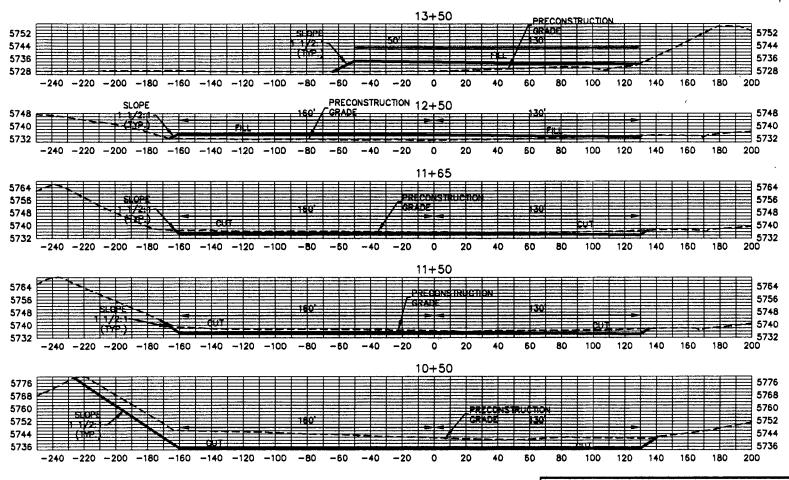






WOLVERINE GAS & OIL COMPANY OF UTAH, LLC.

TYPICAL CROSS SECTIONS FOR WOLVERINE FEDERAL #17-3
SECTION 17, T23S, R1W, S.L.B.&M.





Jones & DeMille Engineering

1535 South 100 West — Richfield, Utch 84701 Phone (435) 896-8286 Fax (435) 896-8286 www.jonesanddernills.com

Typical Cross Sections for

Wolverine Gas & Oil Company of Utah, LLC.

DESIGNED	SURVEYED T. W. G.	CHECKED R.W.S.	DRAWN T.R.G.	PROJECT NO.	SHEET NO.
DATE Sept. 2004	7. W.U.	Dwg.NAME Design	SCALE 1" = 60'	0407-139	FIGURE 5A

Wolverine Federal #17-3

The Wolverine Federal #17-3 well site is located approximately 3.5 miles southeast of the town of Sigurd in Township 23 South - Range 1 West, Section 17: Northwest Quarter of the Southwest Quarter (NW/SW) Salt Lake Base and Meridian in Sevier County, Utah.

The proposed Wolverine Federal #17-3 is situated adjacent to Highway 24 in a gentle rolling plains with hilly terrain on the east side. Plant habitat types within the area consist of a combination of Pinyon Pine—Juniper, located on the hillsides, and sagebrush—grass communities in the less gradient areas.

THE PROPOSED ACTIONS

The proposed depth is 7,100 feet for the Wolverine Federal #17-3 well. The well pad dimensions will be approximately 360 feet by 280 feet. The access road was constructed by initially using fill material and covering it with approximately 8 inches of shale/gravel. Another layer of road base material, approximately 4 inches in depth, will be placed on top of the shale/gravel.

WILDLIFE AND VEGETATIVE SPECIES OF CONCERN

Potential effects concerning federally endangered, threatened, proposed, candidate, sensitive, and management indicator wildlife and vegetative species has been evaluated in the proposed area of disturbance before any surface disturbing activities have occurred. It is understood that these activities and the proposed location will be monitored by a BLM staff or approved biologist. A habitat analysis has been completed to evaluate which species may occur in the area. Surface use guidelines will be followed as will surface use restrictions and time limit stipulations in the area of concern for all affected species. There is the possibility that small clumps of Penstemon plants may be located within this project area. Wolverine Gas and Oil Company of Utah, LLC will take all necessary steps to protect the species of concern and as stipulated by the Bureau of Land Management.

Cultural Resource Inventory of A Well Pad (A-2) Near Sigurd, Sevier County, Utah



Jason Bright
Mountain States Archaeology, LLC
7190 South State Street
Midvale, Utah 84047

Project Number U-04-MV-0646p BLM Permit UT0480011

Cultural Resources Report UT0421

July 13, 2004

Cultural Resource Inventory of A Well Pad (A-2) Near Sigurd, Sevier County, Utah

Project Description

In July 2004, Western Land Services contracted Mountain States Archaeology to perform Class III cultural resource inventory of a small well pad and access route in Sevier County, Utah on behalf of Wolverine Oil and Gas.

The well pad and access route are located in Township 23 South Range 1 West, NW ¼ of SE ¼ of NW ¼ of Section 17 (Figure 1). A records search was performed for this area on March 2, 2004 at Utah SHPO. Craig Harmon at the Richfield BLM office forwarded records search information for a nearby project (Bright 2004a) on March 26th, 2004. Fieldwork was completed July 12th 2004.

Records Search

A number of previously completed projects were found within a mile of the current project locations. These include U-89-BL-0464 (the Sigurd/Kings Meadow Power Line), U-91-BL-0409 (Telephone Reroute), U-93-BL-0184 (Sage Flat Landfill), U-94-BL-0078 (Sage Flat Landfill Road), U-97-SC-0217 (Chevron Seismic Prospect) and U-99-BL-0488 (Salina Exchange).

In addition to these projects, MSA has completed or is currently involved with a number of other nearby projects. These include U-04-MV-0262 (Wellpad 17-2) located just southwest and across Highway 24 of the current or project, U-04-MV0395b, a pipeline from Wellpad 17-2 to Sigurd, U-04-MV-0647, another well pad located immediately north and east of A-2 (Figure 1) and U-04-MV-0106, a series of 8 seismic lines, one of which runs to the south of the current project location.

The seismic line survey documented two sites within a mile of the current project. Site 42SV2667 and 42SV2668 are small historic sites consisting of fence posts (e.g corrals) and trash scatters located west (42SV2667) and south (42SV2668) of the current project location. Neither site will be impacted by proposed activities.

Methods

The well pad location was plotted by MSA with coordinates provided by the client. The well pad itself is 360 feet by 180 feet, and was inventoried by one archaeologist walking 15-meter transects.

Environment

The project location is located just east of Highway 24, south of Sigurd, Utah. Ground visibility was good within the well pad. The general area has already been developed. Vegetation is composed sagebrush with various bunch grasses and forbs. Sediments are a light brown sand and silt.

Results

No cultural resources were located within the well pad or access route. This includes archaeological sites and isolated finds.

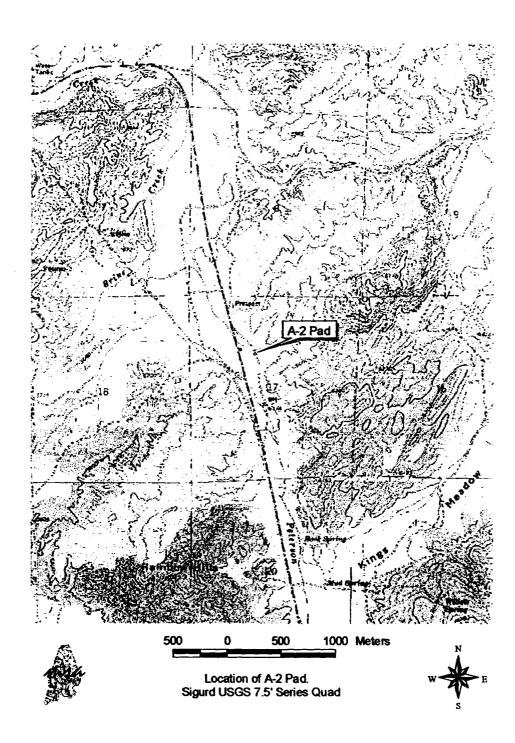


Figure 1. Location of A-2 well pad

WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

DRILLING PROGNOSIS

Wolverine Federal #17-3 NW SW SEC 17-T23S-R1W SEVIER CO., UTAH

BRIEF DRILLING PLAN

Due to surface topography constraints, directionally drill a 7100' MD (6550'TVD) test of the Navajo 1 formation on a day work contract basis from Wolverine's present work area known as Drill Pad A-2 located in Sec 17 T23S – R01W, Sevier Co, UT. Please refer to the directional drilling plan attached for detailed hole angle, trajectory and target information. Deviation is the primary drilling concern in this area. No abnormal pressure or hydrogen sulfide gas is expected, however, an H2S detector will be utilized. The projected surface and bottom hole locations are to be as follows:

Surface Location: 1680' fnl & 2291' fwl of Sec 17 T23N – R01W BHL @ top of NVJO1 (5800' TVD) 1980' fsl & 660' fwl of Sec 17 T23N – R01W

14" conductor casing will be cemented to surface at approximately 80 ft BGL. 9-5/8" surface casing will be set & cemented to surface in a 12-1/4" hole deviated to approximately 10 deg at +/-1506' (+/-1500' TVD). An 8-3/4" hole will then be drilled to +/- 7100' (6550' TVD). 5-1/2" production casing will then be set & cemented to 500' into the surface casing.

EMERGENCY NUMBERS

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Bureau of Land Management (Richfield):	(435)-896-1500
Bureau of Land Management (Salt Lake City)	(801) 539-4045
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

Bureau of Land Management;

Contact Al McKee with BLM (801) 539-4045 24 hrs prior to 1) spudding, running and cementing all casing strings 2) Pressure testing of BOPE or any casing string 3) Pressure integrity test (mud weight equivalency test) of each casing shoe.

<u>NOTE</u>: Ensure the rig, the cementing and testing procedures <u>ALL</u> comply with BLM and Onshore Oil and Gas Order No.2, requirements.

Utah Division of Oil, Gas and Mining

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

GENERAL INFORMATION

OBJECTIVE: Navajo 1 @ 5800' (TVD)

ELEVATION: 5740' GL (est)

PROJECTED TOTAL DEPTH:

7,100 MD; 6550' TVD

SURFACE LOCATION:

1680' FNL & 2291' FWL

Section 17-23S-1W

COUNTY:

Sevier

STATE: Utah

DIRECTIONS TO LOCATION:

From town of Sigurd. Utah go south approximately 4.0 miles on Hwy #24 to location on the left side of

road.

PROPOSED CASING PROGRAM:

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth Set
	14"				80,
121/4"	9-5/8"	36#	J-55	STC	0'-1,510'
8-3/4"	5½"	17#	L-80	LTC	0'-7,100'

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
	14"					
121/4"	9-5/8"	8.379	10.625	0.3127	0.4659	0.4340
8-3/4"	51/2"	4.767	6.050	0.2526	0.2691	0.1305

GEOLOGIC INFORMATION:

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal Psi
Arapien	Surf – 5504'	Surf – 6010'	Shale, siltstone, salt, evaporates		
TwinCreek1	5504'- 5800'	6010' - 6325'	Carbonates		
Navajo 1	5800- 6350'	6325' – 6900'	Sandstone w/ minor shale	X	
Total Depth	6550'	7100'	Sandstone w/ minor shale		

CONSTRUCTION OF SURFACE LOCATION

360'x 180' Pad 150'x 100' x 10' Reserve Pit with a 12 mil synthetic liner 72" diameter tin horn cellar, 4' to 5' deep. Flare pit a minimum of 100' from wellhead.

SURFACE HOLE: 0' to 1510'

Directionally drill a 12-1/4" hole with a TCI rock bit, mud motor & MWD equipment to approximately 1510' using fresh water and gel/lime sweeps when necessary (make hole to fit 9-5/8" casing). Loss circulation is not expected to be a problem in this interval. If losses do occur, begin pumping LCM sweeps. If loss circulation cannot be healed with ±25 ppb LCM, consider dry drilling (no returns). Run survey at every 200' and at TD or as needed to insure bottom hole location.

PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE

Bottom to Top

14" x 13-5/8" 3M weld on flange

13-5/8" 3M x 13-5/8" 3M spacer spool w/ 3" outlets & valves.

13-5/8" 3M Annular preventer, connected to accumulator with enough capacity to close annular and retain 200 psi above pre-charge pressure

13-5/8" Drilling Nipple with fill up and circulating line.

Upper kelly cock valves with handles available

Test Annular to 1500 psi. Test all valves and lines.

MUD PROGRAM FOR SURFACE HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	PH	FLUID LOSS
0 -1510'	8.4 – 8.9	FW/Gel/Lime	26-45	7-9	N/C

Note: Sweep hole every 100 - 200 feet or as needed for hole cleaning. Control the pH with Lime & Caustic to aid in gel flocculation for better carrying capacity.

CASING PROGRAM FOR SURFACE HOLE

DEPTH	SIZE	LENGTH	<u>WT</u>	GRADE	THREAD	REMARKS
0 - 1510'	9 5/8"	1510'	36#	J-55	ST&C	

Casing Running Sequence:

Texas pattern notched guide shoe,

1 jt of 9 5/8" 36# J-55 ST&C

Float collar

Balance of 9-5/8" 36# J-55 ST&C

10 - centralizers equally spaced.

RU cement co., hold safety meeting, test lines, cement 9-5/8" casing per cement company recommendation. Displace with fresh water or mud if used. **Do not overdisplace** cement.

CEMENTING PROGRAM FOR SURFACE HOLE

Lead:

360 sx 35:65 Poz: Class C or type 5	Mixed at:	12.8 ppg
6% Bentonite	Yield:	12.8 ppg 1.78 ft ³ /sx
1% Calcium Chloride	Water:	9.42 gal/sx
0.25 lb/sx Cello Flake		_

Tail:

280 sx Class G	Mixed at:	15.6 ppg
2% Calcium Chloride	Yield:	$1.20 \text{ft}^3/\text{sx}$
.25 lb/sx Cello Flake	Water:	5.25 gal/sx

MUST CIRCULATE CEMENT TO SURFACE per BLM requirements. If the cement does not circulate to surface contact the BLM office at (435) 896-1500. They will require either a temperature survey or a cement bond log to be run, then determine what remedial action will be taken before drilling out.

WOC A TOTAL OF 24 HOURS:

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on an 11" 3M x 9-5/8" SOW casing head. NU BOPE and choke manifold.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PRODUCTION STRING

Bottom to Top

11" 3M x 9-5/8" csg head.

11" 3M x 11" 3M spacer spool

11" 3M Double Ram Preventer w/ 4-1/2" Pipe ram on top and blind ram on bottom. Two side outlets, choke side will have two 3" x 3M gate valves. Kill side will have two 2-1/16 x 3M gate valves and one 2" x 3M check valve. Connect BOP to choke manifold with pressure guage.

11" 3M Annular preventer.

11" 3M short rotating head with fill-up line

Upper kelly cock valves with handles available
Safety valves and subs to fit all drill string connections in use
Inside BOP or float sub available

Testing Procedure:

Annular Preventer

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

Blowout Preventer

The BOP, choke manifold and related equipment will be pressure tested to 2500 psi, 70% of the internal yield of the casing. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed:

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have 2 independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter. The accumulator pressure will be corrected if the measured pre-charge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil & Gas Order Number 2 (only nitrogen gas may be used to pre-charge).

Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this well.

A flare line will be installed after the choke manifold, extending 125 feet from the center of the drill hole to a separate flare pit.

PRODUCTION HOLE: 1,510' TO 7,100'

Trip in the hole with an 8 3/4" insert bit, mud motor & MWD. Drill float, shoe and 20' of new hole. Perform an integrity test to 820 psi (10.5 ppg mud wt equivalent). Drill with a salt saturated mud to the top of the Twin Creek formation.

MUD PROGRAM FOR PRODUCTION HOLE

DEPTH	MUD WEIGH	IT TYPE	VISC	pH F	LUID LOSS
1510' – 5900'	9.8 – 10.3	Saturated Salt	34-45	9.0-10.0	20cc or Less
5900' - 7100'	9.8 - 10.3	Saturated Salt	36-45	9.0-10.0	12cc or Less

Add bulk salt to increase weight to 9.8 ppg. Maintain the pH at 9.0 to 10.0 using lime and caustic. Walk viscosity up to 34 cp. Start bringing fluid loss up to 20 cc. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole.

EVALUATION PROGRAM FOR PRODUCTION HOLE

At TD, circulate and condition hole clean for logs. Short trip to the last bit trip depth monitoring well closely for flow. TOH for logs.

Mudlogger: From surface casing to total depth.

Electric Logs:

Tool	Surf csg to TD
Dipole Sonic w/ GR	Yes
Dual laterolog and microlog w/ GR & Caliper	Yes, GR to surf
LithoDensity/Neutron w/ GR & Caliper	Yes
Micro Imaging Dipmeter	Yes

<u>DST</u>: To be decided Cores: To be decided

CASING PROGRAM FOR PRODUCTION HOLE

_ DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
					·	
0' - TD'	5 ½	7100'	17.0#	L-80	LT&C	

Rig up casing tools and run 5 ½" production casing as follows:

Float shoe

2 joint of 5 1/2" 17.0# L-80 LT&C casing

Float collar

28 Centralizers, middle shoe joint and one every other joint to 5000'.

Run balance of 5 1/2" 17.0# L-80.

CEMENT PROGRAM FOR PRODUCTION CASING

Lead:

750 sx (50:50) Poz: Premium Weight: 13.0 ppg 3 % Bentonite Yield: 1.76 ft³/sx 0.4% Halad R-567 (Low Fluid Loss Control) Water: 8.44

gal/sx 15 % Salt

5 lbm/sk Gilsonite

0.3% D-AIR 3000 (Defoamer)

0.25 lb/sx Flocele

Tail:

350 sx (50:50) Poz: Premium Weight: 13.4 ppg 2 % Bentonite Yield: 1.49 ft³/sx 0.2% Halad R-322 (Low Fluid Loss Control) Water: 7.09

0.276 Halad K-322 (LOW Fluid LOSS Collifor

gal/sx

3 % KCLSalt

3 lbm/sk Silicate Compacted (light Weight Additive)

1 lbm/sk Granulite TR 1/4 (Lost Circulation Additive)

0.2% WG-17 (Suspension Agent)

0.25 lb/sx Flocele

TOC at \pm 1,000 ft

Calculate cement volume based on log caliper +/- 20%. Displace cement w/water. Set slips, ND BOP's, cut off, NU & test wellhead. Clean pits and release rig.

SCHEDULE

Location preparation is presently scheduled to begin on or about October 15, 2004 Drilling operations are anticipated to begin on or about November 15, 2004 end

SITE DETAILS Weatherford Wolverine Gas & Oil Co of Utah, LLC Pad A-2 T23S R01W Sevier County, Utah NW/4 SE/4 Sec 17 Azimuths to True North Magnetic North: 12.95° M Magnetic Field Strength: 52133nT Dip Angle: 64.57° Date: 7/6/2004 Model: igrf2000 17-3 SFC Location 1680' FNL & 2291' FWL Sec 17 SECTION DETAILS Sec MD Inc Azi TVD +N/-S +E/-W DLeg **TFace** VSec Target 0.00 0.00 0.00 0.00 0.0 0.0 0.0 0.0 0.0 23 300.0 0.00 225.19 300.0 0.0 0.0 0.00 226.06 0.0 1506.1 10.00 225.19 1500.0 -74.0 -74.5 0.83 225.19 105.0 4 5 2136.8 28.92 225.19 2092.0 -221.4 -222.9 3.00 0.00 314.2 5882.7 28.92 225.19 5370.7 -1498.0 -1508.2 0.00 0.00 2125.7 15.00 225.19 5800.0 -1620.0 -1631.0 3.00 180.00 2298.8 NVJ01 1980' FS & 660' FW 6 6346.7 7123.2 15.00 225.19 6550.0 0.00 0.00 2499.8 -1761.6 -1773.6 500 16" South(-)/North(+) [1000fb/in] -500 1000 -1000 -1500 2000 13 3/8" -2000 True Vertical Depth [1000fr/in] 3000 -1000 -500 500 -2500 -2000 -1500 West(-)/East(+) [1000ft/in] TARGET DETAILS +E/-W **TVD** +N/-S Shape Name NVJ01 1980' FS & 660' FW 5800.0 -1620.0 -1631.0 Rectangle (400x400) **CASING DETAILS** No. TVD MD Name Size 20.000 80.0 80.0 20" 5000 600.0 600.1 16" 16.000 2500.0 2603.0 13 3/8" 13.375 5500.0 6027.5 9 5/8" 9.625 9 5/8" 6550.0 7123.2 5 1/2" 5.500 Twin Creek FORMATION TOP DETAILS NVJ01 NVJ01 1980' FS & 660' FW 6000 No. TVDPath MDPath Formation 5504.0 6031.9 Twin Creek 5 1/2" 5800.0 6346.7 NVJ01 Plan: 17-3 (17-3/1) 7000 Created By: Stove Schmitz, P.E. Date: 10/21/2004 3000 2000 1000 Checked: Vertical Section at 225.19° [1000ft/in]

Weatherford Directional Services

Planning Report

Company: Wolverine Gas & Oil Co of Utah

Field: Sevier County, Utah

Site: Pad A-2 Well: 17-3 Wellpath:

Date: 10/21/2004

Time: 08:29:40 Co-ordinate(NE) Reference: Well: 17-3, True North

Vertical (TVD) Reference: SITE 0.0

Section (VS) Reference: Well (0.00N,0.00E,225.19Azi)

Plan:

17-3

Sevier County, Utah Field:

Map System: US State Plane Coordinate System 1927

Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level

Map Zone: Coordinate System: Utah, Central Zone Well Centre

Page:

Geomagnetic Model: igrf2000

Site:

Pad A-2 T23S R01W Sevier County, Utah

NW/4 SE/4 Sec 17

Site Position: Lease Line From: Position Uncertainty:

Northing: Easting:

Latitude: ft

Longitude: North Reference:

Grid Convergence:

True -0.28 deg

Well: 17-3

Ground Level:

+N/-S +E/-W

Northing: -1.0 ft Easting: -15.0 ft

172190.37 ft 1876337.48 ft

Latitude:

Slot Name:

38 48

18.890 N

Position Uncertainty:

0.0 ft

0.0 ft

0.0 ft

Longitude:

Drilled From:

Tie-on Depth:

111 56

2.013 W

Wellpath: 1 Current Datum:

Magnetic Data:

Field Strength:

Plan:

Principal:

Vertical Section:

Well Position:

SITE 7/6/2004

Depth From (TVD)

Height 52133 nT

0.0 ft

+N/-S

ft

Above System Datum: Declination: Mag Dip Angle: +E/-W

Mean Sea Level 12.95 deg 64.57 deg

0.0 ft

Direction deg

Surface

ft 5800.0

0.0 0.0

Date Composed: Version: Tied-to:

ft

7/6/2004

225.19

From Surface

Section 1: Start Hold

17-3

Yes

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
100.0	0.00	225.19	100.0	0.0	0.0	0.0	0.00	0.00	0.00	225.19
200.0	0.00	225.19	200.0	0.0	0.0	0.0	0.00	0.00	0.00	225.19
300.0	0.00	225.19	300.0	0.0	0.0	0.0	0.00	0.00	0.00	225.19

Section 2: Start Build 0.83

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100f	Build t deg/100ft	Turn deg/100ft	TFO deg
400.0	0.83	225.19	400.0	-0.5	-0.5	0.7	0.83	0.83	0.00	0.00
500.0	1.66	225.19	500.0	-2.0	-2.1	2.9	0.83	0.83	0.00	0.00
600.0	2.49	225.19	599.9	-4.6	-4.6	6.5	0.83	0.83	0.00	0.00
600.1	2.49	225.19	600.0	-4.6	-4.6	6.5	0.00	0.00	0.00	0.00
700.0	3.32	225.19	699.8	-8.2	-8.2	11.6	0.83	0.83	0.00	0.00
800.0	4.15	225.19	799.6	-12.7	-12.8	18.1	0.83	0.83	0.00	0.00
900.0	4.97	225.19	899.2	-18.3	-18.5	26.0	0.83	0.83	0.00	0.00
1000.0	5.80	225.19	998.8	-25.0	-25.1	35.4	0.83	0.83	0.00	0.00
1100.0	6.63	225.19	1098.2	-32.6	-32.8	46.3	0.83	0.83	0.00	0.00
1200.0	7.46	225.19	1197.5	-41.2	-41.5	58.5	0.83	0.83	0.00	0.00
1300.0	8.29	225.19	1296.5	-50.9	-51.2	72.2	0.83	0.83	0.00	0.00
1400.0	9.12	225.19	1395.4	-61.6	-62.0	87.4	0.83	0.83	0.00	0.00
1506.1	10.00	225.19	1500.0	-74.0	-74.5	105.0	0.83	0.83	0.00	0.00

Weatherford Directional Services

Planning Report

Company: Field: Site: Well: Wellpath:	Wolverine (Sevier Cou Pad A-2 17-3	Gas & Oil Co nty, Utah	of Utah		C V Se	ate: 10/21/ o-ordinate(N) ertical (TVD) ection (VS) R lan:	E) Reference: Reference:	SITE 0.0			Page:	2
Section	3 : Start Bui	ld 3.00										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg		
1600.0	12.82	225.19	1592.0	-87.1	-87.7	123.6	3.00	3.00	0.00	0.00		
1700.0	15.82	225.19	1688.9	-104.5	-105.2	148.3	3.00	3.00	0.00	0.00		
1800.0	18.82	225.19	1784.4	-125.5	-126.3	178.0	3.00	3.00	0.00	0.00		
1900.0	21.82	225.19	1878.1	-149.9	-150.9	212.8	3.00	3.00	0.00	0.00		
2000.0	24.82	225.19	1970.0	-177.8	-179.0	252.3	3.00	3.00	0.00	0.00		
2100.0	27.82	225.19	2059.6	-209.1	-210.5	296.7	3.00	3.00	0.00	0.00		
2136.8	28.92	225.19	2092.0	-221.4	-222.9	314.2	3.00	3.00	0.01	0.10		
Section	4 : Start Ho	ld										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg		
2200.0	28.92	225.19	2147.3	-242.9	-244.6	344.7	0.00	0.00	0.00	0.00		
2300.0	28.92	225.19	2234.8	-277.0	-278.9	393.1	0.00	0.00	0.00	0.00		
2400.0	28.92	225.19	2322.3	-311.1	-313.2	441.4	0.00	0.00	0.00	0.00		
2500.0	28.92	225.19	2409.9	-345.2	-347.5	489.8	0.00	0.00	0.00	0.00		
2600.0	28.92	225.19	2497.4	-379.2	-381.8	538.2	0.00	0.00	0.00	0.00		
2603.0	28.92	225.19	2500.0	-380.3	-382.8	539.6	0.00	0.00	0.00	0.00		
2700.0	28.92	225.19	2584.9	-413.3	-416.1	586.5	0.00	0.00	0.00	0.00		
2800.0	28.92	225.19	2672.4	-447.4 494.5	-450.4	634.9	0.00	0.00	0.00	0.00		
2900.0	28.92	225.19	2760.0	-481.5	-484.8 510.1	683.2	0.00	0.00	0.00	0.00		
3000.0	28.92	225.19	2847.5	-515.6 540.7	-519.1	731.6	0.00	0.00	0.00	0.00		
3100.0	28.92	225.19	2935.0	-549.7 -593.7	-553.4 597.7	780.0	0.00	0.00	0.00 0.00	0.00 0.00		
3200.0	28.92 28.92	225.19 225.19	3022.6	-583.7 -617.8	-587.7 -622.0	828.3 876.7	0.00 0.00	0.00 0.00	0.00	0.00		
3300.0 3400.0	28.92 28.92	225.19 225.19	3110.1 3197.6	-617.8 -651.9	-622.0 -656.3	925.0	0.00	0.00	0.00	0.00		
3500.0	28.92 28.92	225.19 225.19	3285.1	-686.0	-690.6	923.0 973.4	0.00	0.00	0.00	0.00		
3600.0	28.92	225.19	3372.7	-720.1	-724.9	1021.8	0.00	0.00	0.00	0.00		
3700.0	28.92	225.19	3460.2	-754.1	-759.2	1070.1	0.00	0.00	0.00	0.00		
3800.0	28.92	225.19	3547.7	-788.2	-793.6	1118.5	0.00	0.00	0.00	0.00		
3900.0	28.92	225.19	3635.3	-822.3	-827.9	1166.8	0.00	0.00	0.00	0.00		
4000.0	28.92	225.19	3722.8	-856.4	-862.2	1215.2	0.00	0.00	0.00	0.00		
4100.0	28.92	225.19	3810.3	-890.5	-896.5	1263.6	0.00	0.00	0.00	0.00		
4200.0	28.92	225.19	3897.8	-924.5	-930.8	1311.9	0.00	0.00	0.00	0.00		
4300.0	28.92	225.19	3985.4	-958.6	-965.1	1360.3	0.00	0.00	0.00	0.00		
4400.0	28.92	225.19	4072.9	-992.7	-999.4	1408.7	0.00	0.00	0.00	0.00		
4500.0	28.92	225.19	4160.4	-1026.8	-1033.7	1457.0	0.00	0.00	0.00	0.00		
4600.0	28.92	225.19	4248.0	-1060.9	-1068.1	1505.4	0.00	0.00	0.00	0.00		
4700.0	28.92	225.19	4335.5	-1094.9	-1102.4	1553.7	0.00	0.00	0.00	0.00		
4800.0	28.92	225.19	4423.0	-1129.0	-1136.7	1602.1	0.00	0.00	0.00	0.00		
4900.0	28.92	225.19	4510.5 4508.4	-1163.1	-1171.0 1205.2	1650.5	0.00	0.00	0.00	0.00		
5000.0	28.92 28.92	225.19 225.19	4598.1 4685.6	-1197.2 -1231.3	-1205.3 -1239.6	1698.8 1747.2	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00		
5100.0 5200.0	28.92 28.92	225.19 225.19	4000.0 4773.1	-1231.3 -1265.3	-1239.6 -1273.9	1747.2	0.00	0.00	0.00	0.00		
5300.0	28.92 28.92	225.19	4860.7	-1265.3 -1299.4	-1273.9	1843.9	0.00	0.00	0.00	0.00		
5400.0	28.92	225.19	4948.2	-1333.5	-1342.6	1892.3	0.00	0.00	0.00	0.00		
5500.0	28.92	225.19	5035.7	-1367.6	-1376.9	1940.6	0.00	0.00	0.00	0.00		
5600.0	28.92	225.19	5123.2	-1401.7	-1411.2	1989.0	0.00	0.00	0.00	0.00		
5700.0	28.92	225.19	5210.8	-1435.7	-1445.5	2037.3	0.00	0.00	0.00	0.00		
5800.0	28.92	225.19	5298.3	-1469.8	-1479.8	2085.7	0.00	0.00	0.00	0.00		
5882.7	28.92	225.19	5370.7	-1498.0	-1508.2	2125.7	0.00	0.00	0.00	0.00		
Section	5 : Start Dr	op -3.00										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg		
5900.0	28.40	225.19	5385.9	-1503.9	-1514.1	2134.0	3.00	-3.00		-180.00		
6000.0	25.40 25.40	225.19	5475.0	-1503.9 -1535.7	-1514.1 -1546.2	2179.2	3.00	-3.00 -3.00	0.00	180.00		
6027.5	23.40 24.58	225.19	5500.0	-1543.9	-1554.4	2190.9	3.00	-3.00	0.00	180.00		
6031.9	24.44	225.19	5504.0	-1545.2	-1555.7	2192.7	3.00	-3.00	0.00	180.00		
6100.0	22.40	225.19	5566.4	-1564.3	-1574.9	2219.8	3.00	-3.00		-180.00		
6200.0	19.40	225.19	5659.9	-1589.4	-1600.2	2255.4	3.00	-3.00	0.00	180.00		
6300.0	16.40	225.19	5755.0	-1611.1	-1622.0	2286.2	3.00	-3.00	0.00	180.00		

Weatherford Directional Services

Planning Report

Company: Wolverine Gas & Oil Co of Utah Field: Sevier County, Utah

Sevier County, Utah

Site: Pad A-2 Well: 17-3 Wellpath: 1

Date: 10/21/2004 Time: 08:29:40 Co-ordinate(NE) Reference: Well: 17-3, True North

Page:

3

Vertical (TVD) Reference: SITE 0.0

Section (VS) Reference: Well (0.00N,0.00E,225.19Azi)

Plan:

17-3

Section	5:	Start	Drop	-3.0	X)
---------	----	-------	------	------	---	---

MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	TFO	

Section 6: Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100f	Build t deg/100f	Turn deg/100ft	TFO deg	
6400.0	15.00	225.19	5851.4	-1629.7	-1640.8	2312.6	0.00	0.00	0.00	0.00	
6500.0	15.00	225.19	5948.0	-1648.0	-1659.1	2338.5	0.00	0.00	0.00	0.00	
6600.0	15.00	225.19	6044.6	-1666.2	-1677.5	2364.4	0.00	0.00	0.00	0.00	
6700.0	15.00	225.19	6141.2	-1684.4	-1695.9	2390.2	0.00	0.00	0.00	0.00	
6800.0	15.00	225.19	6237.8	-1702.7	-1714.2	2416.1	0.00	0.00	0.00	0.00	
6900.0	15.00	225.19	6334.4	-1720.9	-1732.6	2442.0	0.00	0.00	0.00	0.00	
7000.0	15.00	225.19	6431.0	-1739.1	-1751.0	2467.9	0.00	0.00	0.00	0.00	
7100.0	15.00	225.19	6527.6	-1757.4	-1769.3	2493.8	0.00	0.00	0.00	0.00	
7123.2	15.00	225.19	6550.0	-1761.6	-1773.6	2499.8	0.00	0.00	0.00	0.00	

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	< Latitude> Deg Min Sec	< Longitude> Deg Min Sec
NVJ01 1980' FS -Rectangle (40 -Plan hit target	0x400)		5800.0	-1620.0	-1631.0	170578.301	1874698.64	38 48 2.877 N	111 56 22.614 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name	
80.0	80.0	20.000	26.000	20"	
600.1	600.0	16.000	17.500	16 "	
2603.0	2500.0	13.375	17.500	13 3/8"	
6027.5	5500.0	9.625	12.250	9 5/8"	
7123.2	6550.0	5.500	8.750	5 1/2"	

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6031.9	5504.0	Twin Creek		0.00	0.00
6346.7	5800.0	NVJ01		0.00	0.00

BOND STATEMENT

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Wolverine Gas and Oil Company of Utah, LLC with their Bond, filed with Bureau of Land Management in the amount of \$25,000.

The Bond Number is WY3329

OPERATOR'S REPRESENTATIVE AND CERTIFICATIONS

The responsible field representative for the Wolverine Federal #17-3, on behalf of Wolverine Gas and Oil Company of Utah, LLC, is Steve Hash, PE, available via Wolverine Gas and Oil Company of Utah, LLC, One Riverfront Plaza, 55 Campau NW, Grand Rapids, MI 49503. (616) 458-1150.

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access route; that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Wolverine Gas and Oil Company of Utah, LLC and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date:

July 20, 20

Name and Title:

Richard Moritz, Vice-President, Land and Lega

BLM Bond No. WY3329

OPERATOR RIDER

This rider is being submitted to comply with 43 CFR 3104.2 which states "... The operator on the ground shall be covered by a bond in his/her own name as principal, or a bond in the name of the lessee or sublessee, provided that a consent of the surety, or the obligor in the case of a personal bond, to include the operator under the coverage of the bond is furnished to the Bureau office maintaining the bond."

The obligor hereby agrees to extend the coverage of their bond to include liabilities for operations conducted by <u>Wolverine Gas and Oil Company of Utah. LLC</u> and <u>Wolverine Gas and Oil Company of Wyoming, LLC</u> on Federal oil and gas leases.

Coverage includes the performance of all lease obligations, both past and future, including the responsibility to properly plug and abandon any and all wells, including related surface restoration, and to pay any outstanding rentals or royalties due.

This coverage of operations shall continue whether or not the lease subsequently expires, terminates, is canceled, or relinquished; provided, however, that this rider shall not act to increase the actual cumulative or potential liability of the obligor above the face amount of the bond.

Executed this 3rd day of March, 2004.

Witness:

One Riverfront Plaza, 55 Campau NW

Grand Rapids, MI 49503-2616

Address of witness

Wolverine Gas and Oil Corporation

Obligor

For Obligor: Gary R. Bleeker

Vice President and COO

One Riverfront Plaza, 55 Campau NW Grand Rapids, MI 49503-2616
Obligor's address

Addendum to the Application for Permit to Drill - Wolverine Federal #17-3 well

Section III. G. 3, Form 3160-3

- c. Rotary drilling tools
- d. New casing

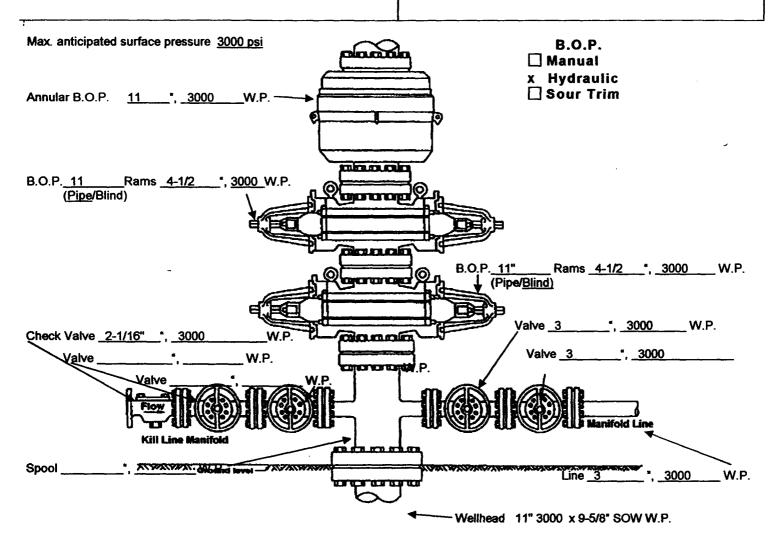
Section III. G. 4, a., Drilling Plan

- (2) Arapien none Twin Creek - oil/gas Navajo 1 - oil/gas
- (3) Pressure Control schematic see attached schematic
- (4) Design factors for each casing string see attached Casing Mechanical Properties & Design

PRESSURE CONTROL SYS __M SCHEMATIC

By EXACT Engineering, Inc Tulsa, OK (918) 599-9400

Operator: Wolverine Gas & Oil Co.	/tah, LLC		
Well name and number Wolverine Federal 17-3		·	



Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well:

Wolverine Federal 17-3

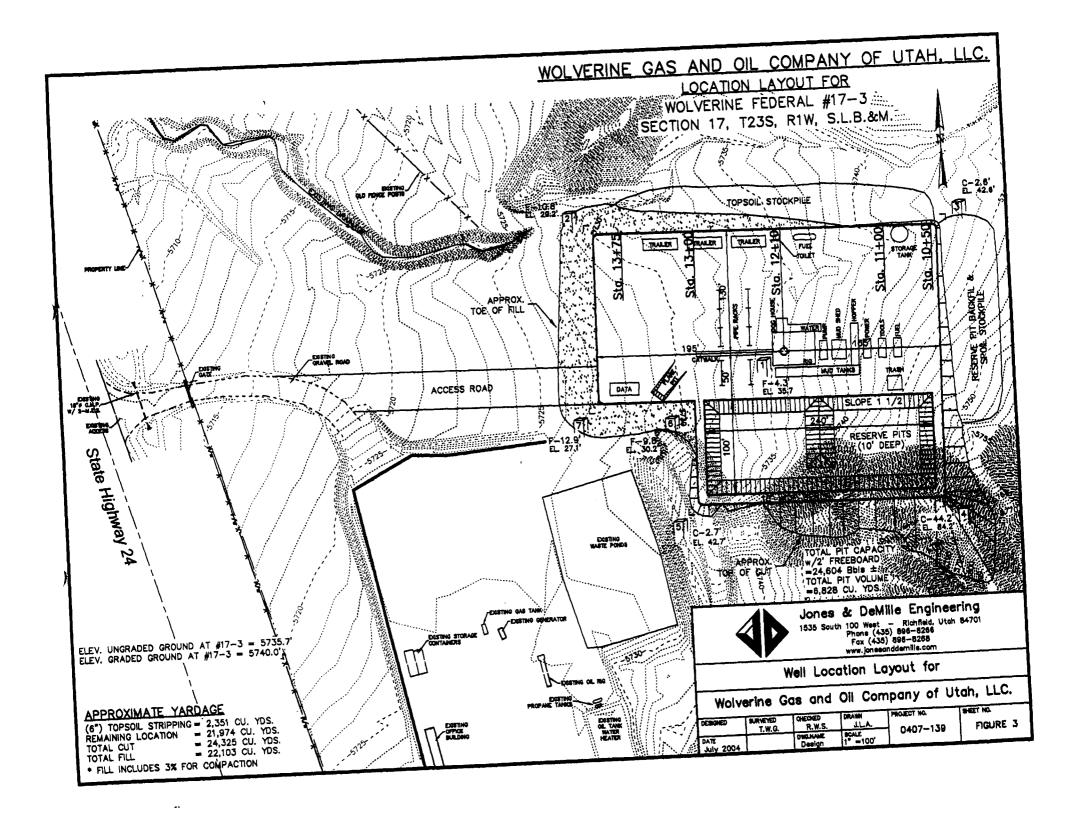
Sevier Co., UT

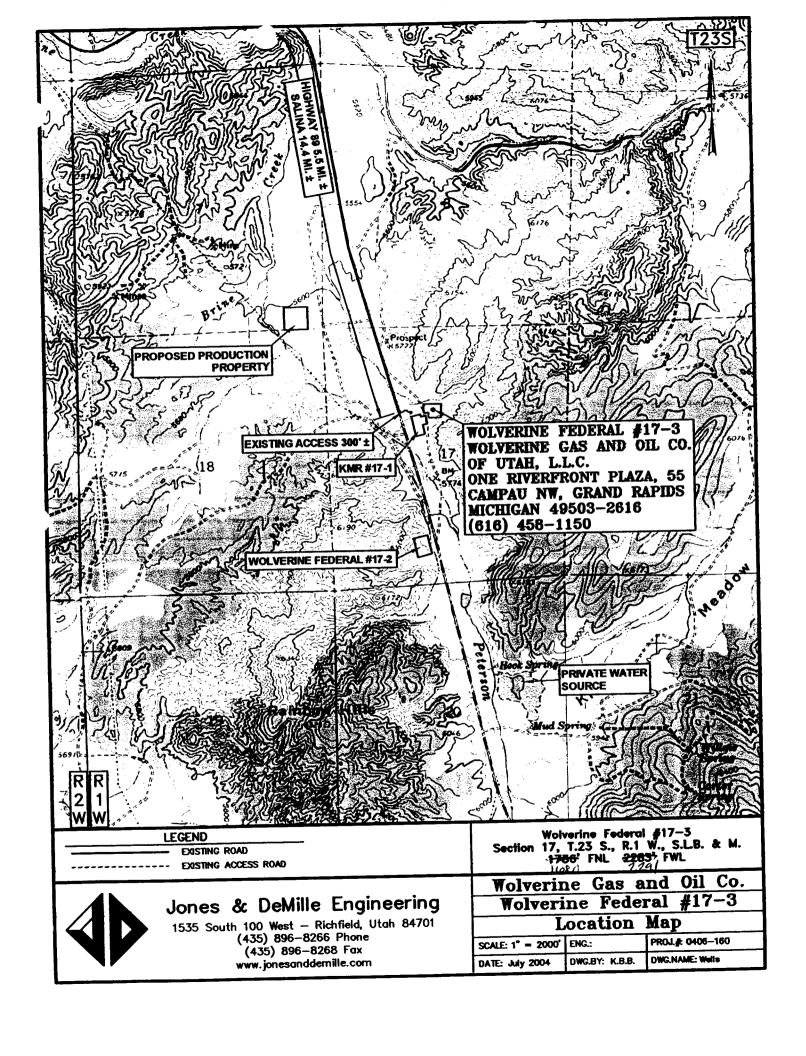
Casing Mechanical Properties & Design:

	Surface	Intermediate	Production
Casing size	9-5/8"		5-1/2"
Casing grade	J-55		N-80
Weight of pipe, #/ft	36.00		17.00
Setting Depth (TVD)	1500		6550
Setting Depth (MD)	1506		7102
Max mud weight - inside	10.20		9.40
Max mud weight - outside	10.20		9.40
Desired cement top	surface		1000
Hydrostatic inside (dry outside), psi	796	 	3202
Minimum Internal Yield, psi	3520		7740
Burst safety factor	4.4		2.4
Hydrostatic outside (dry inside), psi	796		3202
Collapse Resistance, psi	2020		6280
Collapse safety Factor	2.5		2.0
Weight in air, lbs.	54,216		120,734
Body Yield, Ibs.	564,000		397,000
Joint Strength, Ibs	423,000		348,000
Ratio - Weight/Body Yield	0.1		0.3
Tension Safety Factor	7.8		2.9

Casing strings will be pressure tested to 0.22 psift of casing string length or 1500 psig, whichever is greater (not to exceed 70% of the internal yield of the casing), after cementing and prior to drilling out from under the shoe.

A pressure integrity test will be performed at each casing shoe. The formation at the shoe will be tested to a minimum of the mud weight equivalent anticipated to control formation pressure to the next casing depth. This test will be performed before drilling more than 20 ft of new hole







October 27, 2004

Utah Division of Oil, Gas & Mining c/o Diana Whitney 1594 West North Temple, Suite 1210 Salt Lake City, Utah 84114-5801

Dear Diana:

Please find the enclosed APD, MSUP and drilling prognosis for the Wolverine Federal #17-3. We are completing the drilling prognosis and directional drawings for the Wolverine Federal #17-4, 17-5 and the Wolverine State #16-1. As soon as I get this information I will immediately send it to your attention. Thanks for your patience with this matter.

If you have any questions on this matter, please contact me at (435) 896-1943, cell (435) 979-4689.

Sincerely

Shawn Burd

RECEIVED OCT 2 8 2004

DIV. OF OIL, GAS & MINING

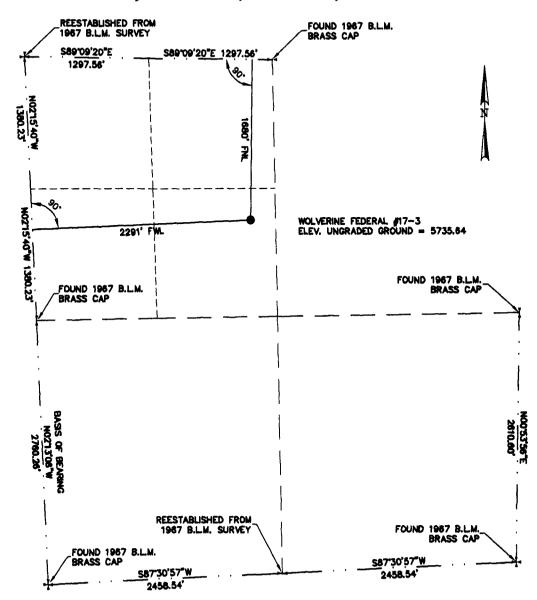
STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

_	_	_	_		
_	\neg	R	N.		2
т,		к	IV	•	o

AMENDED REPORT (highlight changes)

<u> </u>	· · · · · · · · · · · · · · · · · · ·	APPLICA	TION FOR	PERMIT TO	DRILL	5. MINERAL LEASE NO: UTU-73528	6, SURFACE: Fee
1A. TYPE OF W	TYPE OF WORK: DRILL REENTER DEEPEN						R TRIBE NAME:
B. TYPE OF W	ELL: OIL 🗹	GAS 🗌	OTHER	SIN	GLE ZONE MULTIPLE ZON	8. UNIT OF CA AGREEMEN Wolverine Fed. I	
2. NAME OF OP Wolverine		9. WELL NAME and NUMB Wolverine Fede					
3. ADDRESS OF OPERATOR: PHONE NUMBER: 1						10. FIELD AND POOL, OR	
One River	ront Piaza Well (FOOTAG		d Rapids _{ST}	ATE MI ZIP 49	503 (616) 458-1150	Wildcat 11. QTR/QTR, SECTION, T	OWNSHIP, RANGE.
	·	•	VL-T23S,R1\	N.Sec17		MERIDIAN:	
				VL-T23S,R1W,	Sec17	NWSW 17 23	3S 1W S
			AREST TOWN OR P			12. COUNTY:	13, STATE:
	South of S		AREST TOWN OR P	OST OFFICE.		Sevier	UTAH
		PERTY OR LEASE	LINE (FEET)	16. NUMBER O	F ACRES IN LEASE:	17. NUMBER OF ACRES ASSIGNE	ED TO THIS WELL:
appr. 200	ı				8236 ac		40
	O NEAREST WEL R) ON THIS LEAS	L (DRILLING, COM	IPLETED, OR	19. PROPOSED	DEPTH:	20. BOND DESCRIPTION:	
appr. 600		E (FEE1)			7,100	BLM # WY 3329	
	•	ER DF, RT, GR, ET	C.):		ATE DATE WORK WILL START:	23. ESTIMATED DURATION:	
5736 - GI	₹			11/15/20	004	40 days	
24.			PROPO	SED CASING A	ND CEMENTING PROGRAM		
SIZE OF HOLE	CASING SIZE,	GRADE, AND WE	IGHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QU	IANTITY, YIELD, AND SLURRY WEIGI	т
20	14			80	Conductor		
12 1/2	9 5/8	36 ppf	J55 STC	1,510	lead:c,360sx,1.78,	12.8/tail:g, 280sx, 1.2	0, 15.6
8 3/4	5 1/2	17 ppf	L80 LTC	7,100	lead:Poz, 750sx, 1.76, 13	3.0/tail:Poz, 350sx, 1.4	9, 13.4
 -							
25.	<u> </u>		____	ATTA	CHMENTS	5-	
	LOWNG ARE AT	TACHED IN ACCO	RDANCE WITH THE	-	ONSERVATION GENERAL RULES:		GEIVED
_							2 8 2004
WELL PI	AT OR MAP PREF	PARED BY LICENS	SED SURVEYOR OR	ENGINEER	COMPLETE DRILLING PLAN		
EVIDEN	CE OF DIVISION C	F WATER RICHTS	APPROVAL FOR U	SE OF WATER	FORM 5, IF OPERATOR IS PE	ERSON OR COMPAND HE FT 1914	TIGAS & MINING
	Shawi	Burda	14		TITLE Authorized Ag	aont .	
	PRINT) Shaw			0110	10/19/2004	Jeni.	
SIGNATURE	//-	X you			DATE 10/13/2004	2000000	
his space for St	ite use only)	\bigvee			Surf 418981 X	38. 805535 BHC	418521 X
				#e.	Approved by the	1 - 11tg 33062	
API NUMBER AS	SIGNED:	<u> 13-041</u>	-3003(_	APPRUIA Division of	Ť	424 4834
					Oil, Gas and Minis	79	20 000U
1/2001)				(See Instruce	12-28-04 N		38. 8004
200 1/				mountain cocy	K M Cill	\ 	111. 92826

Section 17, T.23 S., R.1 W., S.L.B. & M.



BASIS OF BEARINGS

BASIS OF BEARING USED WAS NO2"3"06"W BETWEEN THE SOUTHWEST CORNER AND THE WEST QUARTER CORNER OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.

LATITUDE = 38'48'18.901" (38.805250278) LONGITUDE = -111'56'02.015" (111.933893056)

PROJECT

Wolverine Gas & Oil Company of Utah. LLC.

WELL LOCATION, LOCATED AS SHOWN IN THE SE 1/4 OF THE NW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M. SEVIER COUNTY, UTAH

LEGEND

- = SECTION CORNERS LOCATED

- QUARTER SECTION CORNERS LOCATED

- PROPOSED WELL HEAD

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT THE WOLVERINE FEDERAL #17-3 LOCATION.
LOCATED IN THE SE 1/4 OF THE NW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M. SEVIER COUNTY.

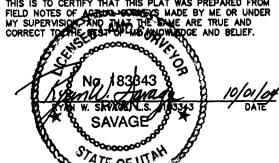
BASIS OF ELEVATION

ELEVATION BASED ON U.S.G.S. BENCH MARK LOCATED IN THE SW 1/4 OF SECTION 17, T.23 S., R.1 W., S.L.B. & M.



CERTIFICATE

THIS IS TO CERTIFY THAT THIS PLAT WAS PREPARED FROM





Jones & DeMille Engineering

1535 South 100 West - Richfield, Utah 84701 Phone (435) 896-8266 Fax (435) 896-8268 www.jonesanddemilie.com

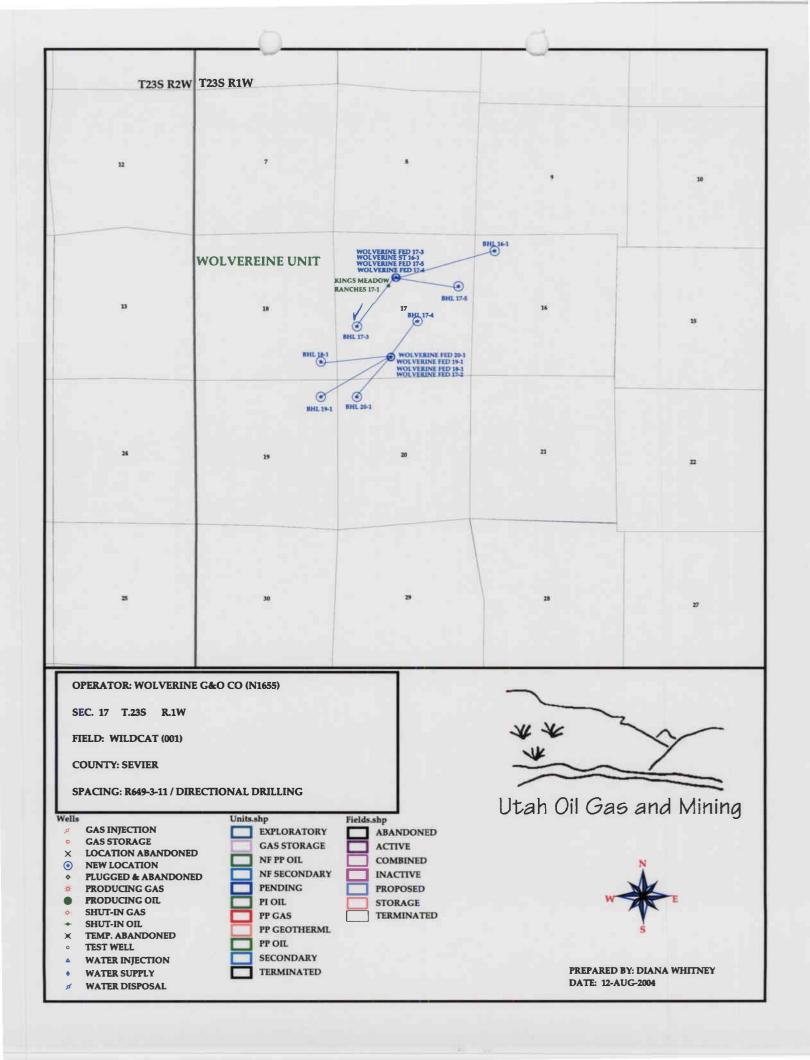
Well Location Plat for

Wolverine Gas & Oil Company of Utah, LLC.

	DEBIGNED	SURVEYED	CHECKED		PROJECT NO.	SHEET NO.
		T.W.G	R.W.S.	K.B.B.		1 .
1	DATE		DWGNAME	9CALE	0406-150	1
	Sept. 2004	L	Wells	1" =1000"		

APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/28/2004	API NO. ASSIGNED: 43-041-30036
WELL NAME: WOLVERINE FED 17-3 OPERATOR: WOLVERINE GAS & OIL CO (N1655) CONTACT: RICHARD MORITZ PROPOSED LOCATION: SENW 17 230S 010W SURFACE: 1680 FNL 2291 FWL SUFFACE: 1980 FSL 0660 FWL SEVIER WILDCAT (1) LEASE TYPE: 1 - Federal LEASE NUMBER: UTU-73528 SURFACE OWNER: 4 - Fee	PHONE NUMBER: 616-458-1150 INSPECT LOCATN BY: / / Tech Review Initials Date Engineering Geology Surface
PROPOSED FORMATION: NAVA COALBED METHANE WELL? NO	LATITUDE: 38.80547 LONGITUDE: -111.9333
RECEIVED AND/OR REVIEWED: Plat Bond: Fed[1] Ind[] Sta[] Fee[] (No. WY 3329 Potash (Y/N) Oil Shale 190-5 (B) or 190-3 or 190-13 Water Permit (No. 63-2529 N RDCC Review (Y/N) (Date: Fee Surf Agreement (Y/N) Surf bune; is Windering.	LOCATION AND SITING: R649-2-3. Unit WOLVERINE R649-3-2. General Siting: 460 From Qtr/Qtr & 920' Between Wells R649-3-3. Exception Drilling Unit Board Cause No: Eff Date: Siting: R649-3-11. Directional Drill
	Apprina () Apprina () WENT OF BASIS



ON-SITE PREDRILL EVALUATION Division of Oil, Gas and Mining

OPERATOR: Wolverine Gas and Oil Company

WELL NAME & NUMBER: Wolverine Federal 17-3

 API NUMBER:
 43-041-30036

 LEASE:
 Fed
 FIELD/UNIT:

LOCATION: 1/4,1/4 SENW Sec: 17 TWP: 23S RNG: 1W 1736 FNL 2283 FWL LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4,1/4 LINE; 920 F ANOTHER WELL.

GPS COORD (UTM): X= 428543 E; Y= 4295893 N SURFACE OWNER: Wolverine.

PARTICIPANTS

M. Jones (DOGM), Shaun Burd (Western Land Services), Ed Bonner (SITLA).

REGIONAL/LOCAL SETTING & TOPOGRAPHY

Proposed location is ~3.5 miles south of Sigurd, in Sevier County, Utah. Staked location lies east of Highway 24 on Wolverine Gas and Oil Company owned property. Steep hills surround the sagebrush dominated flat, from where the well is proposed to be drilled. Access to this well will be along existing Wolverine oil field roads from UDOT maintained roads. new access road will be built for this location, as it will utilize existing access. The direct area drains to the northwest, into Brine Creek then further west eventually into the Sevier River, a year-round live water source ~2.5 miles northwest of the proposed location. Dry washes run throughout the area.

SURFACE USE PLAN

CURRENT SURFACE USE: Grazing and wildlife habitat.

PROPOSED SURFACE DISTURBANCE: 180' x 360' w/ 240' x 100' x 10' (excluded) pit.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: 8 proposed, producing, and/or PA wells are within a 1 mile radius of the above proposed well.

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: On location and along roadway to production facilities south of 17-1 location.

SOURCE OF CONSTRUCTION MATERIAL: Obtained locally and trucked to site.

ANCILLARY FACILITIES: None anticipated.

WILL DRILLING AT THIS LOCATION GENERATE PUBLIC INTEREST OR CONCERNS? (EXPLAIN): This well will be drilled on a pad consisting of 4 wells, all to be drilled directionally. The pad sits next to a recently drilled vertical well, Kings Meadow Ranches 17-1. Highway 24 runs past all of this activity, therefore any and all activity associated with these wells can be seen by the public, which may increase public interest and/or concern.

WASTE MANAGEMENT PLAN:

Portable chemical toilets will be emptied into the municipal waste treatment system; garbage cans on location will be emptied into centralized dumpsters, which will be emptied into an approved landfill. Drilling fluid, and completion/frac fluid will be removed from the pit upon completion of the well. Cuttings will be buried in the pit unless oil based mud is used. If oil based mud is used disposal of the cuttings should be discussed with the Division. Used oil from drilling operations and support will be hauled to a used oil recycling facility. Produced water will be disposed of at an approved facility.

ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: Dry washes run throughout timmediate area of the proposed well location.	h€
FLORA/FAUNA: Sagebrush, greasewood, winterfat, 4-wing salt brush, derodents, fowl.	er
SOIL TYPE AND CHARACTERISTICS: Rocky clay.	
SURFACE FORMATION & CHARACTERISTICS: Arapien Shale	
EROSION/SEDIMENTATION/STABILITY: Erosive upon disturbance.	
PALEONTOLOGICAL POTENTIAL: None observed.	-

RESERVE PIT

CHARACTERISTICS: Dugout earthen, 240'x100'x10', exterior to location.

LINER REQUIREMENTS (Site Ranking Form attached): Liner required.

SURFACE RESTORATION/RECLAMATION PLAN

As per Wolverine.

SURFACE AGREEMENT: Wolverine owns the surface.

CULTURAL RESOURCES/ARCHAEOLOGY: Mountain States Archaeology.

OTHER OBSERVATIONS/COMMENTS

Some alterations are planned to a dry wash on the north side of the location. The appropriate permits with the Division of Water Rights will be obtained prior to any construction.

ATTACHMENTS

Photos of this location were taken and placed on file.

Mark L. Jones
DOGM REPRESENTATIVE

September 7, 2004 / 3:00 pm DATE/TIME

Evaluation Ranking Criteria and Ranking Score For Reserve and Onsite Pit Liner Requirements

Site-Specific Factors	Ranking	Site Ranking
Distance to Groundwater (feet)		
>200	0	
100 to 200 75 to 100	5 10	
25 to 75	15	
<25 or recharge area	20	0
Distance to Surf. Water (feet) >1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	
< 100	20	0
Distance to Nearest Municipal Well (feet)		
>5280	0 5	
1320 to 5280 500 to 1320	10	
<500	20	0
		
Distance to Other Wells (feet) >1320	0	
300 to 1320	10	
<300	20	0
Native Soil Type		
Low permeability Mod. permeability	0 10	
High permeability	20	10
	_ •	
Fluid Type Air/mist	0	
Fresh Water	0 5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud Fluid	15	
containing significant levels of	2.2	4.0
hazardous constituents	20	10
Drill Cuttings	•	
Normal Rock Salt or detrimental	0 10	0
sale of declimental	10	
Annual Precipitation (inches)	•	
<10 10 to 20	0 5	
>20	10	5
Affected Populations <10	0	
10 to 30	6	
30 to 50	8	
>50	10	0
Presence of Nearby Utility Conduits		
Not Present	0	
Unknown	10	
Present	15	10

Sensitivity Level I = 20 or more; total containment is required, consider criteria for excluding pit use.

Sensitivity Level II = 15-19; lining is discretionary.

Sensitivity Level III = below 15; no specific lining is required.

___35 (Level _ I _ Sensitivity)

Final Score

DIVISION OF OIL, GAS AND MINING APPLICATION FOR PERMIT TO DRILL STATEMENT OF BASIS

OPERATOR:	Wolverine Gas and Oil Company
WELL NAME & NUMBER:	Wolverine Federal 17-3
API NUMBER:	43-041-30036
LOCATION: 1/4,1/4 <u>SENW</u> Sec	: <u>17</u> TWP: <u>23 S</u> RNG: <u>1 W</u> <u>1736</u> F <u>N</u> L <u>2283</u> F <u>W</u> L
Cools and Cooses of Western	
Geology/Ground Water: This leastion is placed in the	High Platonia gostion of the Coloredo Platonia physic graphic province in western
	High Plateaus section of the Colorado Plateau physiographic province in western racterized this area as being in the Basin and Range - Colorado Plateau transition
	a few miles east of the Sevier River, in the Peterson Creek drainage, a tributary of
• • • • • • • • • • • • • • • • • • • •	ows into the Sevier River. The rancher heavily allocates water rights for the local
	ic rocks just to the east, for agriculture.
	to a thin alluvium covering the evaporite-rich Jurassic age Arapien Shale. The
	d system from below the surface casing into the Navajo Sandstone. The quality of
any surface water that manages to es	cape upstream allocation is diminished as it flows past the location and into Brine
Creek, owing to the evaporite minera	als in the Arapien Shale. Any water contained in the Arapien Shale is also likely to
	ter Rights publication notes that aquifers in close proximity to the Arapien Shale are
also likely to contain ground water w	ith high TDS levels. Inasmuch as there do not appear to be any intervening aquifers
	etween the Arapien Shale and the underlying Navajo Sandstone, it is unlikely that
any high quality ground water will b	
	hat any high quality ground water resource will be encountered in the Navajo, at that
—— •	Navajo or at all. The proposed casing, cementing and drilling fluid program should
	e poor quality ground waters expected to be encountered in a well at this location.
	point right and an underground water right are found within a mile to the east. The
underground water right is for a 136	' deep well more than half a mile east.
Reviewer: Christoph	ner J. Kierst Date: October 19, 2004
	
Surface:	
	th of Sigurd, in Sevier County, Utah. Staked location lies east of Highway 24 on
Wolverine Gas and Oil Company ov	wned property. Steep hills surround the sagebrush dominated flat from which the
well is proposed to be drilled. Acc	ess to this well will be along existing Wolverine oil field roads from UDOT
maintained roads. No new access ro	pad will be built for this location, as it will utilize existing access. The direct area
drains to the northwest, into Brine C	Creek then further west eventually into the Sevier River, a year-round live water
source ~2.5 miles northwest of the	proposed location. Dry washes run throughout the area. Some alterations are
planned to a dry wash on the north s	ide of the location. The appropriate permits with the Division of Water Rights
will be obtained prior to any constru	ction. Shaun Burd, Western Land Services, represented Wolverine Gas and Oil,
while Ed Bonner was in attendance.	representing the SITLA royalty interest. Sevier County was invited but chose
not to attend this on-site evaluation	•

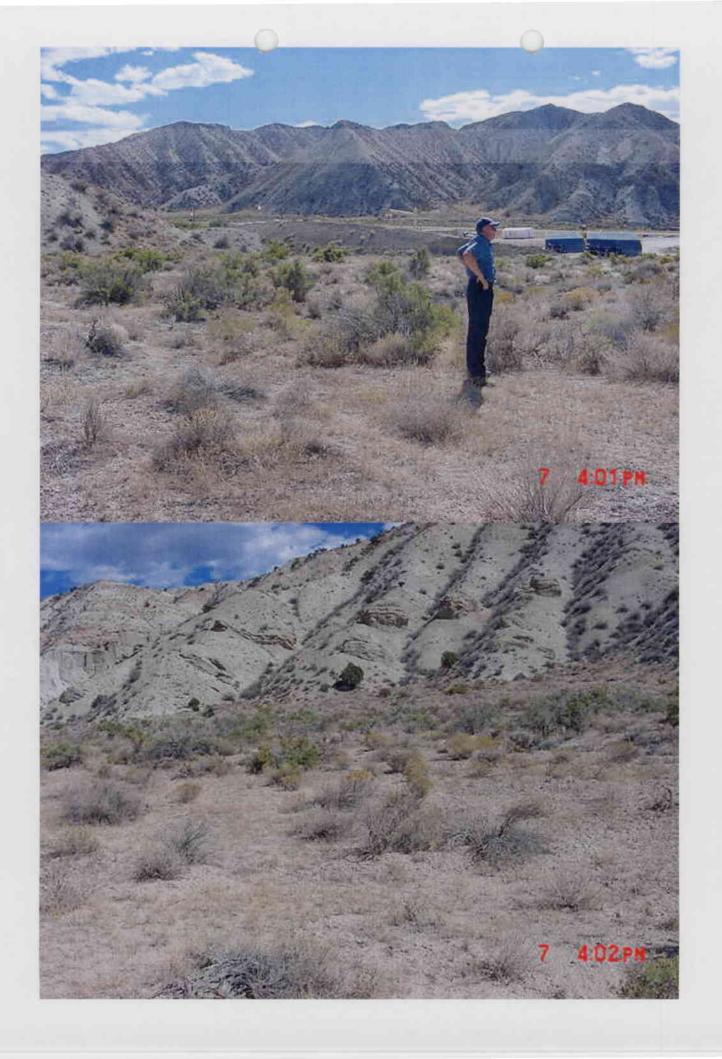
Conditions of Approval/Application for Permit to Drill:

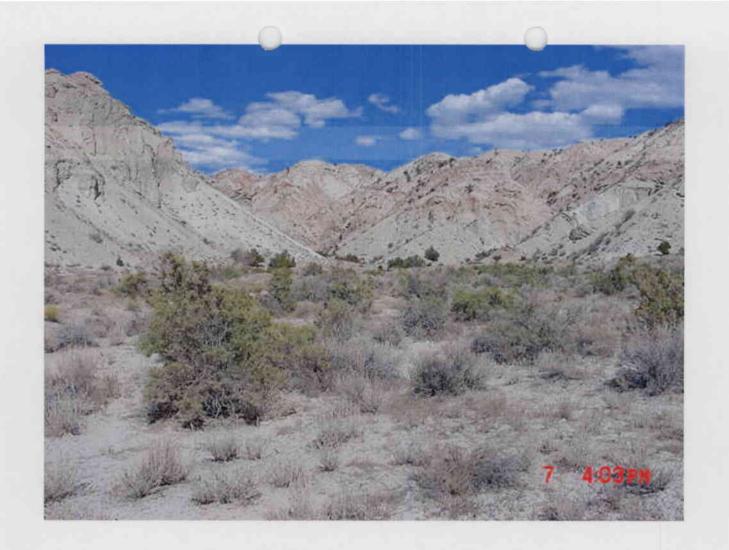
Reviewer: Mark L. Jones

1. A synthetic liner with a minimum thickness of 12 mills shall be properly installed and maintained in the reserve pit.

Date: October 14, 2004

- 2. Diversion of drainages around the pad.
- 3. Berm the location.



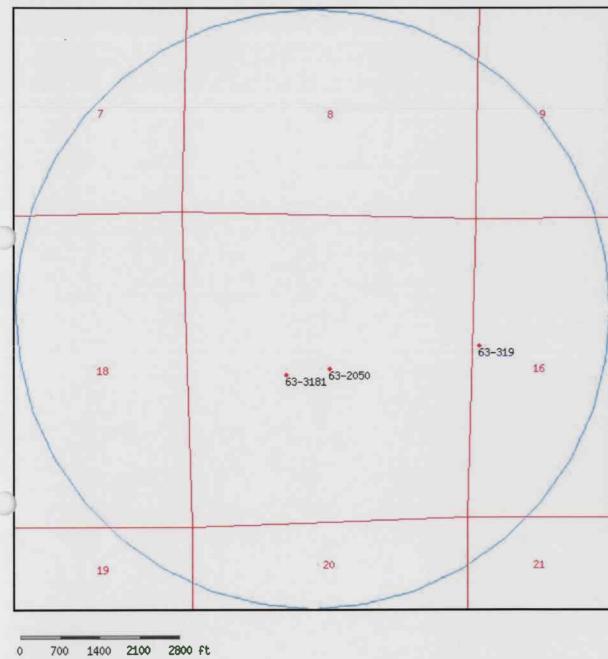




WRPLAT Program Output Listing

Version: 2004.03.26.00 Rundate: 10/20/2004 04:56 PM

Radius search of 5280 feet from a point S1736 E2283 from the NW corner, section 17, Township 23S, Range 1W, SL b&m Criteria:wrtypes=W,C,E podtypes=all status=U,A,P usetypes=all



Water Rights

STATE OF UTAH - DIVISION OF WATER RIGHTS - DATA PRINT OUT for 63-319(A27813)

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 10/20/2004 WRNUM: 63-319 APPLICATION/CLAIM NO.: A27813 CERT. NO.: NAME: A. Bryant and J. Llewellyn Young ADDR: Richfield UT 84701 LAND OWNED BY APPLICANT? ______ PUB ENDED: NEWSPAPER: FILED: 01/21/1956 | PRIORITY: 01/21/1956 | PUB BEGAN: SE ACTION: [ProtestEnd: PROTESTED: [No] | HEARNG HLD: | ActionDate:02/28/1957 | PROOF DUE:] | ELEC/PROOF: EXTENSION: ELEC/PROOF: [CERT/WUC: LAP, ETC: RENOVATE: RECON REQ: TYPE: [PD Book No. Map: Type of Right: Application to Appropriate Source of Info: Application to Appropriate Status: No Prf Req _______ FLOW: 0.015 cfs SOURCE: Underground Water Well COUNTY: Sevier COMMON DESCRIPTION: POINT OF DIVERSION -- UNDERGROUND: (1) N 330 ft E 100 ft from W4 cor, Sec 16, T 23S, R 1W, SLBM Comment: WATER RIGHT CLAIMS IN COMMON:

Diversion Limit:

PERIOD OF USE: 01/01 TO 12/31

###STOCKWATERING: 250 Cattle or Equivalent



State of Utah

Department of Natural Resources

ROBERT L. MORGAN Executive Director

Division of Oil, Gas & Mining

LOWELL P. BRAXTON
Division Director

OLENE S. WALKER Governor

GAYLE F. McKEACHNIE
Lieutenant Governor

October 28, 2004

Wolverine Gas & Oil Company of Utah, LLC One Riverfront Plaza Grand Rapids, MI 49503

Re:

Wolverine Federal 17-3 Well, Surface Location 1680' FNL, 2291' FWL, SE NW, Sec. 17, T. 23 South, R. 1 West, Bottom Location 1980' FSL, 660' FWL, NW SW, Sec. 17, T. 23 South, R. 1 West, Sevier County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-041-30036.

Sincerely,

John R. Baza Associate Director

pab

Enclosures

cc:

Sevier County Assessor

Bureau of Land Management, Moab District Office

Operator:	Wol	Wolverine Gas & Oil Company of Utah, LLC			
Well Name & Number	Wo	Wolverine Federal 17-3			
API Number:	43-041-30036				
Lease:	UTU-73528				
Surface Location: SE NW	Sec. 17	T. 23 South	R. <u>1 West</u>		
Bottom Location: NW SW	Sec. 17	T. 23 South	R. 1 West		

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

• Contact Dan Jarvis at (801) 538-5338

3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

- 4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.
- 5. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
- 6. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

Page 2 API #43-041-30036 October 28, 2004

7. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

DIVISION OF OIL, GAS AND MINING

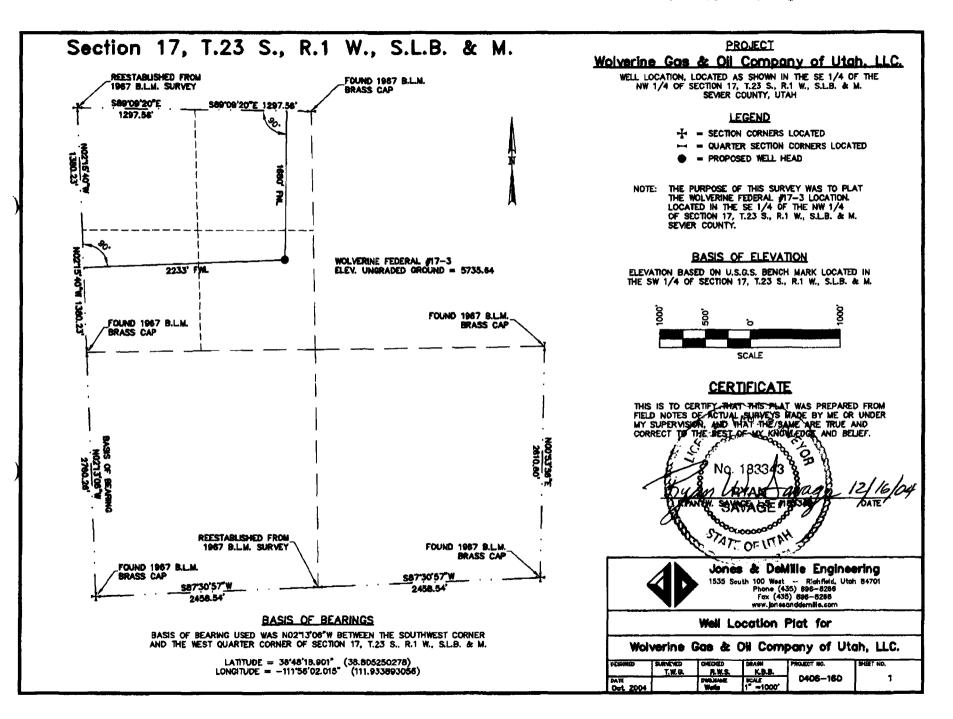
SPUDDING INFORMATION

Name of Company	ompany: WOLVERINE GAS & OIL CO UT				
Well Name:	WOLVER	INE FED 17-3			
Api No: 43-0	41-30036	_Lease Type:_FED	ERAL – FEE SURF		
Section 17 Tow	nship_23SRange_	01W County	SEVIER		
Drilling Contractor	UNION DRIL	LING RI	G# <u>111</u>		
SPUDDED:					
Date	12/10/2004	_			
Time	6:30 AM				
How	DRY	_			
Drilling will cor	mmence:				
Reported by	STEVE HAS	Н			
Telephone #	1-918-599-94	00			
Date 12/13/2	004 Signed	СНД			

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES

JNFIDENTIAL FORM 9

	DIVISION OF OIL, GAS AND MI	NING	5. LEASE DESIGNATION AND SERIAL NUMBER: FEE UTU-73528
SUNDRY	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposals to drill nodrill horizontal la	7. UNIT of CA AGREEMENT NAME: Wolverine Fed Exploration Unit		
1. TYPE OF WELL OIL WELL	GAS WELL OTHER	Orilling Well	8. WELL NAME and NUMBER: Wolverine Federal #17-3
2. NAME OF OPERATOR:	Uhah II C		9. API NUMBER: 4304130036
Wolverine Gas and Oil of 0 3. ADDRESS OF OPERATOR:		PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT:
	Grand Rapids STATE MI ZIP	49203 (616) 458-1150	Covenant Field
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1680' I	FNL & 2291' FWL		county: Sevier
The striggs		n ni intra escapa, i sagripa escapa a superior su en la como de la Maria la como de la co	if the control of the state of
QTR/QTR, SECTION, TOWNSHIP, RAN	GE, MERIDIAN: SENW 17 23S 1	W	STATE: UTAH
11. CHECK APPR	ROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
NOTICE OF INTENT	ACIDIZE	DEEPEN	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	ALTER CASING	FRACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR	NEW CONSTRUCTION	TEMPORARILY ABANDON
12/10/2004	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR
Π	CHANGE TUBING	PLUG AND ABANDON	VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL
Date of work completion:	CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF
	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	OTHER:
	CONVERT WELL TYPE DMPLETED OPERATIONS. Clearly show all p	RECOMPLETE - DIFFERENT FORMATION	
2. Revise casing program	: move 58' west for best rig layou per attached drilling prognosis ENCLOSED INFORMATION CO		1' FWL TO 1680' FNL & 2233' FWL
Surf	200	BHL	
	38.805536	•	RECEIVED
418963 X	111.933269	418458x	NECEIVED
42759009		42948734	DEC 1 3 2004
		38.800711	DIV. OF OIL, GAS & MINING
		-111. 939018	DIV. OF OIL, GAS & WHANG
NAME (PLEASE PRINT) Steven R.	Hash - EXACT Engineering, Inc	TITLE Consultant & Ago	ent for Wolverine Gas & Oil Co Utal
SIGNATURE_	u 12. Harl	DATE 12/9/2004	
	PY SENT IO OPERATOR 9: 12-21-04 GIS: (See Instr	Accepted by Utah Division Oil, Gas and Moutons on Reverse Side: 12 (14 / 04) By: 12 / 14 / 04	n of Federal Approval Of This



WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

DRILLING PROGNOSIS

Wolverine Federal #17-3 NW SW SEC 17-T23S-R1W SEVIER CO., UTAH

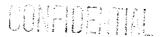
BRIEF DRILLING PLAN

Due to surface topography constraints, directionally drill a 7100' MD (6550'TVD) test of the Navajo 1 formation on a day work contract basis from Wolverine's present work area known as Drill Pad A-2 located in Sec 17 T23S – R01W, Sevier Co, UT. Please refer to the directional drilling plan attached for detailed hole angle, trajectory and target information. Deviation is the primary drilling concern in this area. No abnormal pressure or hydrogen sulfide gas is expected, however, an H2S detector will be utilized. The projected surface and bottomhole locations are to be as follows:

Surface Location: 1680' fnl & 2233' fwl of Sec 17 T23N – R01W BHL @ top of NVJO1 (5800' TVD) 1980' fsl & 660' fwl of Sec 17 T23N – R01W

20" conductor casing will be cemented to surface at approximately 100-120 ft BGL. 16" surface casing will be set & cemented to surface in a 17-1/2" hole deviated to approximately 3 deg at +/-600' (+/-600' TVD). A 12-1/4" hole will then be drilled to +/-6010' (5500' TVD) deviated to approximately 28 deg from vertical by 2000' maintaining tangent to TD of 6010. 9-5/8" intermediate casing will be set from surface to TD & cemented across the lowermost 2500'. An 8-3/4" hole will then be drilled to +/-7100' (6550' TVD). 7" production casing will then be run from TD back to surface & cemented to approximately 300' into the 9-5/8" intermediate casing. In the event of lost circulation or other problems while drilling the 12-1/4" hole from 600' to 2700', the hole will be enlarged to 15" and a 13-3/8" casing string will be run from surface to TD (no deeper than 2700') and cemented into the surface casing. This is a contingency only.

1



EMERGENCY NUMBERS

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Bureau of Land Management (Richfield):	(435)-896-1500
Bureau of Land Management (Salt Lake City)	(801) 539-4045
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

United States Bureau of Land Management

Contact Al McKee (801) 539-4045 24 hrs prior to spudding

Utah Division of Oil, Gas and Mining

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

GENERAL INFORMATION

OBJECTIVE: Navajo 1 @ 5800' (TVD)

ELEVATION: 5740' GL (est)

PROJECTED TOTAL DEPTH:

7,150 MD; 6550' TVD

SURFACE LOCATION:

1680' FNL & 2233' FWL

Section 17-23S-1W

COUNTY: Se

Sevier

STATE: Utah

DIRECTIONS TO LOCATION:

From town of Sigurd, Utah go south approximately

3.5 miles on Hwy #24 to location on the left side of

the road.

PROPOSED CASING PROGRAM:

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth Set
	20"	.25 wall	X42	PE welded	100-120'
17-1/2"	16"	65#	H-40	BTC	0'-600'
*** 15"	13-3/8"	68#	J-55	BTC	0'-2700'
12-1/4"	9-5/8"	47#	N-80	LTC	0'-6,010'
8-3/4"	7"	26#	N-80	LTC	0'- 7100'

^{***} contingency only – set only if hole conditions dictate

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
30"	20"	Conductor	na			
20"	16"	15.062	17.0	.7854	.7854	1.2476
*** 15"	13-3/8"	12.259	14.375	.2927	.2927	.8406
121/4"	9-5/8"	8.525	10.625	0.3127	0.4659	0.4340
8-3/4"	7"	6.151	7.656	0.2526	0.2691	0.1305

^{***} contingency only – set only if hole conditions dictate

GEOLOGIC INFORMATION:

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal Psi
Arapien	Surf – 5504'	Surf – 6010'	sh, siltstone,salt,evaporites		
TwinCreek1	5504'- 5800'	6010' -6325'	Carbonates		
Navajo 1	5800- 6350'	6325' -6900'	Sandstone w/ minor shale	X	
Total Depth	6550'	7100'	Sandstone w/ minor shale		

CONSTRUCTION OF SURFACE LOCATION

360'x 180' Pad 150'x 100' x 10' Reserve Pit with a 12 mil synthetic liner 96" diameter tin horn cellar, 10' deep. Flare pit a minimum of 100' from wellhead.

SURFACE HOLE: 0' to 600'

28.70E.7M

Directionally drill a 17-1/2" hole with a TCI rock bit, mud motor & MWD equipment to approximately 600' using fresh water and gel/lime sweeps when necessary (make hole to fit 16" casing). Loss circulation is not expected to be a problem in this interval. If losses do occur, begin pumping LCM sweeps. If loss circulation cannot be healed with ±25 ppb LCM, consider dry drilling (no returns). Maintain hole direction to approximately 230 degr azimuth in keeping with the attached directional plan.

PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE

Bottom to Top

20" drilling nipple – returns to mud pits – no pressure control

MUD PROGRAM FOR SURFACE HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	PH	FLUID LOSS
0 -600'	8.4 – 8.9	FW/Gel/Lime	26-45	7-9	N/C

Note: Sweep hole every 100 - 200 feet or as needed for hole cleaning. Control the pH with Lime & Caustic to aid in gel flocculation for better carrying capacity.

CASING PROGRAM FOR SURFACE HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0 - 600'	16"	600'	65#	H-40	BT&C	

Casing Running Sequence:

guide shoe

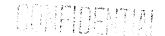
1 jt of 16" 65# H-40 BT&C

Float collar

Balance of 16" 65# H-40 BT&C

Centralizers as reqd.

RU cement co., hold safety meeting, test lines, cement 16" casing per cement company recommendation. Displace with fresh water or mud if used.



CEMENTING PROGRAM FOR SURFACE HOLE

Lead:

855 sx Premium Class G Mixed at: 15.8 ppg 2% calcium chloride Yield: 1.17 ft³/sx 0.25 lb/sx flocele Water: 5.01 gal/sx

MUST CIRCULATE CEMENT TO SURFACE If the cement does not circulate to surface contact the UDOGM office for further instructions and remedial actions.

WOC A TOTAL OF 24 HOURS:

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on a 16-3/4" 3M x 16" SOW casing head. NU 20" 2M diverter w/ 6-5/8" HCR valve rigged to mud/gas separator, mud tanks and flare pit.

PROTECTIVE CASING HOLE: 600' to 6010'

Directionally drill a 12-1/4" hole with a PDC and/or a TCI rock bit, mud motor & MWD equipment to approximately 6010' MD using a low solids – non dispersed system converting to salt mud in the lower portion. Loss circulation may be a problem in this interval. If losses do occur, begin pumping LCM sweeps. If loss circulation cannot be healed with ±25 ppb LCM, consider dry drilling (no returns). If conditions are severe consider implementing a contingency for casing the problem zone with 13-3/8" csg as outlined above. Build hole angle to approximately 22 degrees by 2000' then maintain hole angle and direction to ICP in keeping with the attached directional plan.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PROTECTIVE CASING STRING

Bottom to Top

16-3/4" 3M x 16" SOW csg head.
16-3/4" 3M x 20" 2M drilling spool
20" 2M x 20" 2M x (2) 7-1/16" 2m side outlets
one outlet 7-1/16" HCR valve w/ 6" blooie line to mud separator & pit
one outlet blank
20" 2M flanged btm drilling nipple w/ fillup line

Upper kelly cock valves with handles available Safety valves and subs to fit all drill string connections in use Inside BOP or float sub available

Testing Procedure:



Annular Preventer & HCR Valve

The annular preventer will be pressure tested to 1000 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have 2 independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

MUD PROGRAM FOR PROTECTIVE CASING HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	pН	FLUID LOSS
				_	
600' - 6010'	8.7 - 9.2	LSND	34-45	9.0-10.0	12cc or Less

If required, implement a natural breakover to a salt or gypsum system as salt and gypsum sections are drilled. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole. Implement casing contingency if absolutely necessary.

CASING PROGRAM FOR PROTECTIVE CASING HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0'-TD'	9-5/8"	6010'	47#	N-80	LT&C	

Rig up casing tools and run 9-5/8" protective casing as follows:

Float shoe, 2 joint of 9-5/8" 47.0# N-80 LT&C casing, Float collar, 6 Centralizers, middle shoe joint and one every other joint for 12 jts, run balance of 9-5/8" 47# N-80

CEMENT PROGRAM FOR PROTECTIVE CASING

725 sx (50:50) Poz: Premium

Weight: Yield:

13.8 ppg 1.43 ft³/sx

3 % Bentonite

0.3% Halad R-344 (Low Fluid Loss Control)

Water:

6.45

gal/sx 15 % Salt

0.3% D-AIR 3000 (Defoamer)

0.25 lb/sx Flocele

TOC at + 3500 ft

Calculate cement volume based on gauge hole plus 30% excess. Displace with mud. Set slips, ND diverter stack, cut off, NU & test wellhead. Clean pits and prepare for next hole section.

PRODUCTION HOLE: 6,010 to 7100'

Trip in the hole with an 8 3/4" insert bit, mud motor & MWD. Drill float, shoe and 20' of new hole. Perform an integrity test to 500 psi w/ 9ppg mud (10.5 ppg mud wt equivalent). Drill with a low colloid polymer system.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PRODUCTION CASING STRING

Bottom to Top

11" 5M x 9-5/8" SOW csg head.

11" 5M x 11" 5M mud cross w/ (2) side outlets

one outlet 2-1/16 5M kill line

one outlet 3-1/16" 5M choke line

11" 5M double ram blowout preventers with 4-1/2" pipe rams top & CSO rams btm

11" 5M annular preventer

11" Rotating head w/ fillup line

Connect BOP to choke manifold with pressure guage

Upper kelly cock valves with handles available Safety valves and subs to fit all drill string connections in use Inside BOP or float sub available

Testing Procedure:

Annular Preventer

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 4) When the annular is initially installed
- 5) Whenever any seal subject to test pressure is broken
- 6) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

Blowout Preventer

The BOP, choke manifold and related equipment will be pressure tested to 4500 psi, or 70% of the internal yield of the casing. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed:

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have 2 independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter. The accumulator pressure will be corrected if the measured pre-charge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil & Gas Order Number 2 (only nitrogen gas may be used to pre-charge).

Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this well.

A flare line will be installed after the choke manifold, extending 125 feet from the center of the drill hole to a separate flare pit.

MUD PROGRAM FOR PRODUCTION HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	pH F	LUID LOSS
6010' - 7100'	8.7 – 9.9	LC Polymer	34-50	9.0-10.0	10cc or Less

EVALUATION PROGRAM FOR PRODUCTION HOLE

At TD, circulate and condition hole clean for logs. Short trip to the intermediate casing monitoring well closely. TOH for logs.

Mudlogger: From 1500' to total depth.

Electric Logs:

Tool	ICP to TD
Dipole Sonic w/ GR	Yes
Dual laterolog and microlog w/ GR & Caliper	Yes
LithoDensity/Neutron w/ GR & Caliper	Yes
Micro Imaging Dipmeter	Yes

<u>DST:</u> To be decided Cores: To be decided

CASING PROGRAM FOR PRODUCTION HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0' - TD'	7"	7100'	26#	N-80	LT&C	

Rig up casing tools and run 7" production casing as follows:

Float shoe 2 joint of 7" 26# N-80 LT&C casing Float collar Centralizers as reqd.

Run balance of 7" 26# N-80.

CEMENT PROGRAM FOR PRODUCTION CASING

245 sx (50:50) Poz: Premium Weight: 14.35 ppg 2 % Bentonite Yield: 1.23 ft³/sx

0.3% Halad R-344 (Low Fluid Loss Control) Water:

gal/sx 5 % Salt 0.25 lb/sx Flocele

TOC at \pm 5700 ft in 9-5/8" csg Calculate cement volume based on log caliper +/- 25%. Displace cement w/water. Set slips, ND BOP's, cut off, NU & test wellhead. Clean pits and release rig.

SCHEDULE

Location preparation is presently scheduled to begin on or about November 15, 2004 Drilling operations are anticipated to begin on or about December 10, 2004

end

4.81



Azimuths to True North Magnetic North: 12.95°

Magnetic Field Strength: 52133nT Dip Angle: 64.57° Date: 7/6/2004 Model: igrf2000

Wolver _ 2 Gas & Oil Co of Utah, LL _

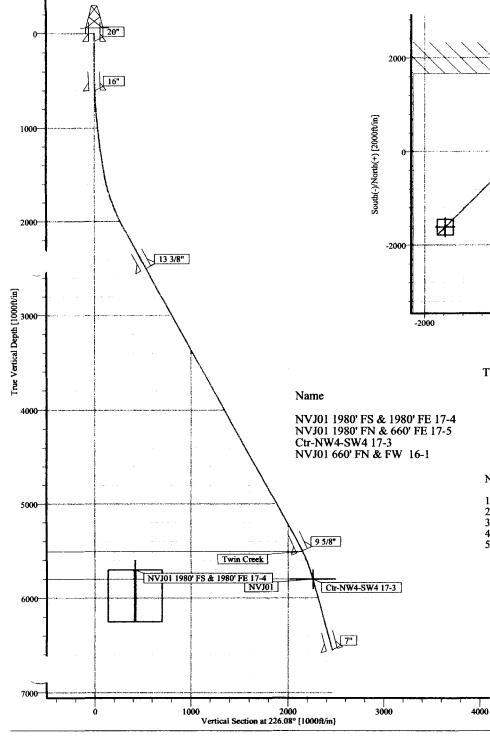
SITE DETAILS

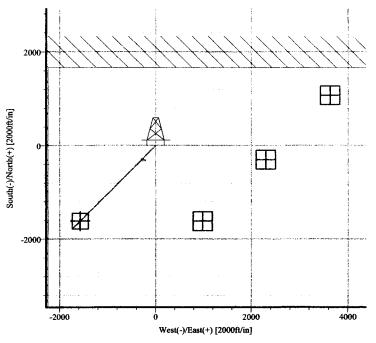
Pad A-2 T238 R01W Sevier County, Utah NW/4 SE/4 Sec 17

17-3 SFC Location 1680' FNL & 2233' FWL Sec 17

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target _	
_											
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	ł	To State American
2	300.0	0.00	224.16	300.0	0.0	0.0	0.00	224.16	0.0	1	Service .
3	1506.1	10.00	224.16	1500.0	-75.3	-73.1	0.83	224.16	104.9	L,	
4	2118.6	28.38	224.16	2076.0	-219.1	-212.8	3.00	0.00	305.3		
5	5881.4	28.38	224.16	5386.7	-1502.1	-1458.5	0.00	0.00	2092.5		
6	6327.2	15.00	224.16	5800.0	-1620.0	-1573.0	3.00	180.00	2256.8	Ctr-NW4-SW	4 17-3
7	7103.7	15.00	224.16	6550.0	-1764.2	-1713.0	0.00	0.00	2457.6		





TARGET DETAILS

TVD	+N/-S	+ <u>E</u> /-W	Shape
5700.0	-1621.0	978.0	Rectangle (400x400)
5765.0	-301.0	2298.0	Rectangle (400x400)
5800.0	-1620.0	-1573.0	Rectangle (330x330)
5830.0	1076A0SI	ngb e fai	LRectangle (400x400)

No.	TVD	MD	Name	Size
1	80.0	80.0	20"	20.000
2	600.0	600.1	16"	16.000
3	2500.0	2600.5	13 3/8"	13.375
4	5500.0	6008.0	9 5/8"	9.625
5	6550.0	7103.7	7 "	7.000
•				

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1 2	5504.0	6012.4	Twin Creek
	5800.0	6327.2	NVJ01

Plan: 17-3 Alt BHL (17-3/1)

Date: 12/9/2004

Weatherford

Planning Report

Plan:

Company: Wolverine Gas & Oil Co of Utah

Field: Sevier County, Utah

Site: Pad A-2 Well:

17-3 Wellpath: 1

Date: 12/9/2004

Time: 14:21:07

Co-ordinate(NE) Reference: Well: 17-3, True North

Vertical (TVD) Reference: SITE 0.0

Section (VS) Reference:

Well (0.00N,0.00E,226.08Azi)

Page:

17-3 Alt BHL

Field:

Sevier County, Utah

Map System: US State Plane Coordinate System 1927

Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level

Map Zone:

Utah, Central Zone Well Centre

Coordinate System: Geomagnetic Model:

igrf2000

Pad A-2

T23S R01W Sevier County, Utah

NW/4 SE/4 Sec 17

Site Position:

Lease Line From: Position Uncertainty:

Northing: Easting:

Latitude:

Longitude:

North Reference: Grid Convergence:

True -0.28 deg

Ground Level: Well: Well Position:

+N/-S +E/-W

0.0 ft Northing: 16.0 ft Easting:

0.0 ft

0.0 ft

172191.22 ft 1876368.49 ft Latitude:

Slot Name:

38 48 18.900 N

Position Uncertainty:

0.0 ft

Longitude:

111

56 1.622 W

Surface

Wellpath: 1 **Current Datum:**

Magnetic Data:

Field Strength:

Principal:

Vertical Section:

SITE

7/6/2004 52133 nT

0.0 ft Height

+N/-S

ft

0.0

Tie-on Depth: **Above System Datum:** Declination:

0.0 ft Mean Sea Level 12.95 deg 64.57 deg

Mag Dip Angle: +E/-W

Drilled From:

Direction deg

ft 0.0

226.08

0.0

Depth From (TVD)

17-3 Alt BHL

ft

Date Composed: Version:

7/6/2004

Tied-to:

From Surface

Plan Section Information

Yes

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
300.0	0.00	224.16	300.0	0.0	0.0	0.00	0.00	0.00	224.16	
1506.1	10.00	224.16	1500.0	-75.3	-73.1	0.83	0.83	0.00	224.16	
2118.6	28.38	224.16	2076.0	-219.1	-212.8	3.00	3.00	0.00	0.00	
5881.4	28.38	224.16	5386.7	-1502.1	-1458.5	0.00	0.00	0.00	0.00	
6327.2	15.00	224.16	5800.0	-1620.0	-1573.0	3.00	-3.00	0.00	180.00	Ctr-NW4-SW4 17-3
7103.7	15.00	224.16	6550.0	-1764.2	-1713.0	0.00	0.00	0.00	0.00	

Section 1: Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
100.0	0.00	224.16	100.0	0.0	0.0	0.0	0.00	0.00	0.00	224.16
200.0	0.00	224.16	200.0	0.0	0.0	0.0	0.00	0.00	0.00	224.16
300.0	0.00	224.16	300.0	0.0	0.0	0.0	0.00	0.00	0.00	224.16

Section 2: Start Build 0.83

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100f	Build t deg/100f	Turu t deg/100ft	TFO deg	
400.0	0.83	224.16	400.0	-0.5	-0.5	0.7	0.83	0.83	0.00	0.00	
500.0	1.66	224.16	500.0	-2.1	-2.0	2.9	0.83	0.83	0.00	0.00	
600.0	2.49	224.16	599.9	-4.7	-4.5	6.5	0.83	0.83	0.00	0.00	
600.1	2.49	224.16	600.0	-4.7	-4.5	6.5	0.00	0.00	0.00	0.00	
700.0	3.32	224.16	699.8	-8.3	-8.1	11.6	0.83	0.83	0.00	0.00	
800.0	4.15	224.16	799.6	-13.0	-12.6	18.1	0.83	0.83	0.00	0.00	
900.0	4.97	224.16	899.2	-18.7	-18.1	26.0	0.83	0.83	0.00	0.00	

Weatherford Planning Report

Company Field: Site: Well: Wellpath:	: Wolverine (Sevier Cou Pad A-2 17-3 : 1		of Utah			Date: 12/9/2 Co-ordinate(N Vertical (TVD Section (VS) R Plan:	E) Reference: Reference:	SITE 0.0	3, True Nort 0N,0.00E,22		Page:	2
Section	2 : Start Bui	ld 0.83										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-V	V VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg		
1000.0		224.16	998.8	-25.4	-24.7		0.83	0.83	0.00	0.00		
1100.0		224.16	1098.2	-33.2	-32.2		0.83	0.83	0.00	0.00		
1200.0		224.16	1197.5	-42.0	-40.8		0.83	0.83	0.00	0.00		
1300.0 1400.0		224.16 224.16	1296.5 1395.4	-51.8 -62.7	-50.3		0.83	0.83	0.00	0.00		
1506.1		224.16	1500.0	-02.7 -75.3	-60.9 -73.1		0.83 0.83	0.83 0.83	0.00 0. 00	0.00 0.00		
Section	3 : Start Bui											
MD	Incl	Azim	TVD ft	+N/-S	+E/-W		DLS dog/1005	Build	Turn	TFO		•
ft	deg	deg		ft	ft	ft	deg/100ft		aeg/100m	deg		
1600.0		224.16	1592.0	-88.6	-86.1		3.00	3.00	0.00	0.00		
1700.0		224.16	1688.9	-106.4	-103.3		3.00	3.00	0.00	0.00		
1800.0 1900.0		224.16 224.16	1784.4 1878.1	-127.7 -152.6	-124.0 -148.2		3.00 3.00	3.00 3.00	0.00 0.00	0.00		
2000.0		224.16	1970.0	-181.0	-175.8		3.00	3.00	0.00	0.00 0.00		
2100.0		224.16	2059.6	-212.8	-206.7		3.00	3.00	0.00	0.00		
2118.6		224.16	2076.0	-219.1	-212.8		3.00	3.00	-0.02	-0.17		
Section	4 : Start Hol	ld										
MD ft	Inci deg	Azim deg	TVD ft	+N/-S ft	+E/-W	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg		
2200.0	28.38	224.16	2147.6	-246.9	-239.7	343.9	0.00	0.00	0.00	0.00		
2300.0		224.16	2235.6	-281.0	-272.8		0.00	0.00	0.00	0.00		
2400.0		224.16	2323.6	-315.1	-305.9		0.00	0.00	0.00	0.00		
2500.0		224.16	2411.6	-349.2	-339.0		0.00	0.00	0.00	0.00		
2600.0		224.16	2499.5	-383.3	-372.1		0.00	0.00	0.00	0.00		
2600.5		224.16	2500.0	-383.4	-372.3		0.00	0.00	0.00	0.00		
2700.0		224.16	2587.5	-417.4	~405.2	581.4	0.00	0.00	0.00	0.00		
2800.0 2900.0		224.16 224.16	2675.5 2763.5	-451.4 -485.5	-438.4 -471.5		0.00	0.00 0.00	0.00	0.00		
3000.0		224.16	2851.5	-405.5 -519.6	-504.6		0.00 0.00	0.00	0.00 0.00	0.00 0.00		
3100.0		224.16	2939.5	-553.7	-537.7		0.00	0.00	0.00	0.00		
3200.0		224.16	3027.5	-587.8	-570.8		0.00	0.00	0.00	0.00		
3300.0		224.16	3115.4	-621.9	-603.9		0.00	0.00	0.00	0.00		
3400.0		224.16	3203.4	-656.0	-637.0		0.00	0.00	0.00	0.00		
3500.0		224.16	3291.4	-690.1	-670.1		0.00	0.00	0.00	0.00		
3600.0		224.16	3379.4	-724.2	-703.2		0.00	0.00	0.00	0.00		
3700.0 3800.0		224.16 224.16	3467.4 3555.4	-758.3 -792.4	-736.3 -769.4		0.00	0.00	0.00	0.00		
3900.0		224.16	3643.4	-792.4 -826.5	-802.5		0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00		
4000.0		224.16	3731.3	-860.6	-835.6		0.00	0.00	0.00	0.00		
4100.0		224.16	3819.3	-894.7	-868.7		0.00	0.00	0.00	0.00		
4200.0	28.38	224.16	3907.3	-928.8	-901.8		0.00	0.00	0.00	0.00		
4300.0		224.16	3995.3	-962.9	-935.0		0.00	0.00	0.00	0.00		
4400.0		224.16	4083.3	-997.0	-968.1		0.00	0.00	0.00	0.00		
4500.0		224.16	4171.3	-1031.1	-1001.2		0.00	0.00	0.00	0.00		
4600.0		224.16	4259.3 4347.2	-1065.2	-1034.3		0.00	0.00	0.00	0.00		
4700.0 4800.0		224.16 224.16	4347.2 4435.2	-1099.3 -1133.4	-1067.4 -1100.5		0.00 0.00	0.00 0.00	0.00	0.00 0.00		
4900.0		224.16	4433.2 4523.2	-1133.4 -1167.5	-1133.6		0.00	0.00	0.00 0.00	0.00		
5000.0		224.16	4611.2	-1201.6	-1166.7		0.00	0.00	0.00	0.00		
5100.0		224.16	4699.2	-1235.7	-1199.8		0.00	0.00	0.00	0.00		
5200.0	28.38	224.16	4787.2	-12 6 9.8	-1232.9	1768.8	0.00	0.00	0.00	0.00		
5300.0		004.40	4875.2	-1303.8	-1266.0		0.00	0.00	0.00	0.00		
		224.16										
5400.0	28.38	224.16	4963.1	-1337.9	-1299.1		0.00	0.00	0.00	0.00		
5500.0	28.38 28.38	224.16 224.16	4963.1 5051.1	-1337.9 -1372.0	-1299.1 -1332.2	1911.3	0.00	0.00	0.00	0.00		
5500.0 5600.0	28.38 28.38 28.38	224.16 224.16 224.16	4963.1 5051.1 5139.1	-1337.9 -1372.0 -1406.1	-1299.1 -1332.2 -1365.3	1911.3 1958.8	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00		
5500.0	28.38 28.38 28.38 28.38	224.16 224.16	4963.1 5051.1	-1337.9 -1372.0	-1299.1 -1332.2	1911.3 1958.8 2006.3	0.00	0.00	0.00	0.00		

Weatherford **Planning Report**

Company: Wolverine Gas & Oil Co of Utah Field:

Sevier County, Utah

Site: Pad A-2 Well: 17-3 Wellpath: 1

Date: 12/9/2004 Time: 14:21:07 Co-ordinate(NE) Reference: Well: 17-3, True North

Vertical (TVD) Reference: SITE 0.0

Well (0.00N,0.00E,226.08Azi) 17-3 Alt BHL

Page:

Section (VS) Reference: Plan:

Section	5	Start	Dron	-3 00
Section	. o :	: Start	DIOO	-3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100f	Build t deg/1001	Turn t deg/100ft	TFO deg	
5900.0	27.82	224.16	5403.1	-1508.4	-1464.6	2101.3	3.00	-3.00	0.00	-180.00	
6000.0	24.82	224.16	5492.7	-1540.2	-1495.5	2145.6	3.00	-3.00	0.00	180.00	
6008.0	24.58	224.16	5500.0	-1542.6	-1497.8	2148.9	3.00	-3.00	0.00	180.00	
6012.4	24.44	224.16	5504.0	-1543.9	-1499.1	2150.7	3.00	-3.00	0.00	-180.00	
6100.0	21.82	224.16	5584.6	-1568.6	-1523.1	2185.1	3.00	-3.00	0.00	180.00	
6200.0	18.82	224.16	5678.3	-1593.5	-1547.2	2219.8	3.00	-3.00	0.00	-180.00	
6222.9	18.13	224.16	5700.0	-1598.7	-1552.3	2227.0	3.00	-3.00	0.00	180.00	
6290.9	16.09	224.16	5765.0	-1613.0	-1566.2	2247.0	3.00	-3.00	0.00	-180.00	
6300.0	15.82	224.16	5773.8	-1614.8	-1568.0	2249.5	3.00	-3.00	0.00	-180.00	
6327.2	15.00	224.16	5800.0	-1620.0	-1573.0	2256.8	3.00	-3.00	0.00	180.00	

Section 6: Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
8.3	15.00	224.16	5830.0	-1625.8	-1578.6	2264.8	0.00	0.00	0.00	0.00
400.0	15.00	224.16	5870.3	-1633.5	-1586.1	2275.6	0.00	0.00	0.00	0.00
5500.0	15.00	224.16	5966.9	-1652.1	-1604.2	2301.5	0.00	0.00	0.00	0.00
600.0	15.00	224.16	6063.5	-1670.7	-1622.2	2327.3	0.00	0.00	0.00	0.00
3700.0	15.00	224.16	6160.1	-1689.2	-1640.2	2353.2	0.00	0.00	0.00	0.00
0.008	15.00	224.16	6256.7	-1707.8	-1658.2	2379.1	0.00	0.00	0.00	0.00
900.0	15.00	224.16	6353.3	-1726.4	-1676.3	2404.9	0.00	0.00	0.00	0.00
7000.0	15.00	224.16	6449.9	-1744.9	-1694.3	2430.8	0.00	0.00	0.00	0.00
103.7	15.00	224.16	6550.0	-1764.2	-1713.0	2457.6	0.00	0.00	0.00	0.00

Targets

Name Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft		Lati Min	itude> Sec			igitud n Se	ie> ec
NVJ01 1980' FS & 1980' FE 17-4 -Rectangle (400x400)	5700.0	-1621.0	978.0	170565.491	877338.61	38	48	2.878 N	111	55	49.26	69 W
-Plan out by 2530.38 at	5700.0	-1598.7	-1552.3	170600.101	874808.47	38	48	3.098 N	111	56	21.22	28 W
NVJ01 1980' FN & 660' FE 17-5 -Rectangle (400x400)	5765.0	-301.0	2298.0	171879.071	878665.00	38	48 1	15.924 N	111	55	32.59	96 W
-Plan out by 4080.88 at	5765.0	-1613.0	-1566.2	170585.811	874794.47	38	48	2.956 N	111	56	21.40	04 W
Ctr-NW4-SW4 17-3 -Rectangle (330x330) -Plan hit target	5800.0	-1620.0	-1573.0	170578.861	874787.65	38	48	2.887 N	111	56	21.49	90 W
NVJ01 660' FN & FW 16-1 -Rectangle (400x400)	5830.0	1076.0	3626.0	173249.621	879999.66	38	48 2	29.533 N	111	55	15.81	19 W
-Plan out by 5864.08 at	5830.0	-1625.8	-1578.6	170573.121	874782.02	38	48	2.830 N	111	56	21.5€	80 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name	
80.0	80.0	20.000	26.000	20"	
600.1	600.0	16.000	17.500	16"	
2600.5	2500.0	13.375	17.500	13 3/8"	
6008.0	5500.0	9.625	12.250	9 5/8"	
7103.7	6550.0	7.000	8.500	7"	

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6012.4	5504.0	Twin Creek		0.00	0.00
6327.2	5800.0	NVJ01		0.00	0.00

012

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY	ACT	ION	FORM
	~~"	IVIT	

Operator:

Wolverine Gas and Oil Company of Utah, LLC

Operator Account Number: N 1655

RECEIVED

Address:

55 Campau NW, One Riverfront Plaza

DEC 2 1 2004

K

city Grand Rapids

zíp 49503-2616 state MI

Phone Number: (616) 458 1 16 OIL, GAS & MINING

Well 1

API Number	Well	20	Sec	Twp	Rng	County	
4304130036	Wolverine Federal 17-3		NWSW	17	23\$	1W	Sevier
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		ity Assignment Hective Date
8	99999	13995	12	2/10/200	04	12	122/04

Comments: NAVA

CONFIDENTIAL

API Number	umber Well Name		QQ Sec Twp		Rng County			
Action Code	Current Entity Number	New Entity Number	Spud Date				itity Assignment Effective Date	
omments:								

Well 3

API Number	Well Name		QQ Sec Twp			Rng County		
Action Code	Current Entity New Entity Number Number		Spud Date		Entity Assignment Effective Date			
omments:								

ACTION CODES:

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- Re-assign well from one existing entity to a new entity
- Other (Explain in 'comments' section)

Steven R Hash - EXACT Engineering Inc

Name (Please Print

Signature

Consulting Engr 918-599-9400

12/20/2004

Title

Date

(5/2000)

Form 3160-5 (April 2004)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

FORM APPRI	
OM B No. 1004 Expires: March	H0137 131, 2007
5. Lease Serial No.	CUMEIDENIA
UTU-73528	COMINEMIA

Λ	4	0
IJ		ា

Do not use this form for proposals to drill of abandoned well. Use Form 3160 - 3 (APD) for	
SUBMIT IN TRIPLICATE- Other instructions	
I. Type of Well Gas Well Other	Wolverine Fed Exploration Unit 8. Well Name and No.
2. Name of Operator Wolverine Gas & Oil Co of Utah, LLC	Wolverine Federal #17-3 9. API Well No.
3a Address 3b. Phon	e No. (include area code) 4304130036
	8-1150 10. Field and Pool, or Exploratory Area Covenant Field
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) SHL: 1680' FNL & 2233' FWL	11. County or Parish, State
BHL: 1980' FSL & 660' FWL (proposed in progress)	Sevier Co, UT
12. CHECK APPROPRIATE BOX(ES) TO INDICAT	E NATURE OF NOTICE, REPORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION
Subsequent report	e Treat Reclamation Well Integrity onstruction Recomplete Other d Abandon Temporarily Abandon
determined that the site is ready for final inspection.) Permission is requested for the following: 1) amend production casing size FROM: 7.0" TO: 5-1/2" in accord PLEASE MAINTAIN ALL INFORMATION CONTAINED HERI	lance with revised complete drilling prognosis (ver5 2004.12.09) attached EIN CONFIDENTIAL - thank you RECEIVED DEC 2 / 2004
	DIV. OF OIL, GAS & MINING
14 Thanks contifuely the forestime in the second	
 I hereby certify that the foregoing is true and correct Name (Printed/Typed) 	L
Steven R Hash	Title Consultant - EXACT Engineering Inc
Signature Steven 12. Harl	Date 12/21/2004
THIS SPACE FOR FEDERA	L OR STATE OFFICE VIEW
Approved by Conditions of approval, if any, are attached. Approval of this notice does not war certify that the applicant holds legal or equitable title to those rights in the subject which would entitle the applicant to conduct operations thereon.	rant or lease Accept Division of Tite Litah
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for at States any false, fictitious or fraudulent statements or representations as to any mate (Instructions on page 2)	ny person knowingly and willfully to make it any department or agency of the United ter within its jurisdiction.



WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

DRILLING PROGNOSIS

Wolverine Federal #17-3 NW SW SEC 17-T23S-R1W SEVIER CO., UTAH

BRIEF DRILLING PLAN

Due to surface topography constraints, directionally drill a 7100' MD (6550'TVD) test of the Navajo 1 formation on a day work contract basis from Wolverine's present work area known as Drill Pad A-2 located in Sec 17 T23S – R01W, Sevier Co, UT. Please refer to the directional drilling plan attached for detailed hole angle, trajectory and target information. Deviation is the primary drilling concern in this area. No abnormal pressure or hydrogen sulfide gas is expected, however, an H2S detector will be utilized. The projected surface and bottomhole locations are to be as follows:

Surface Location:

1680' fnl & 2233' fwl of Sec 17 T23N – R01W

BHL @ top of NVJO1 (5800' TVD) 1980' fsl & 660' fwl of Sec 17 T23N – R01W

20" conductor casing will be cemented to surface at approximately 100-120 ft BGL. 16" surface casing will be set & cemented to surface in a 17-1/2" hole deviated to approximately 3 deg at +/-600' (+/-600' TVD). A 12-1/4" hole will then be drilled to +/-5800' (5300' TVD) deviated to approximately 28 deg from vertical by 2000' maintaining tangent to TD of 5800'. 9-5/8" intermediate casing will be set from surface to TD & cemented across the lowermost 2500'. An 8-1/2" hole will then be drilled to +/- 7100' (6550' TVD). 5-1/2" production casing will then be run from TD back to surface & cemented to approximately 300' into the 9-5/8" intermediate casing. In the event of lost circulation or other problems while drilling the 12-1/4" hole from 600' to 2700', the hole will be enlarged to 15" and a 13-3/8" casing string will be run from surface to TD (no deeper than 2700') and cemented into the surface casing. This is a contingency only.

EMERGENCY NUMBERS

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Bureau of Land Management (Richfield):	(435)-896-1500
Bureau of Land Management (Salt Lake City)	(801) 539-4045
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

United States Bureau of Land Management

Contact Al McKee (801) 539-4045 24 hrs prior to spudding

Utah Division of Oil, Gas and Mining

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

GENERAL INFORMATION

OBJECTIVE: Navajo 1 @ 5800' (TVD)

ELEVATION: 5740' GL (est)

PROJECTED TOTAL DEPTH:

7,100 MD; 6550' TVD

SURFACE LOCATION:

1680' FNL & 2233' FWL

Section 17-23S-1W

COUNTY: Sevier

STATE: Utah

DIRECTIONS TO LOCATION:

From the town of Sigurd, Utah go south

approximately 3.5 miles on Hwy #24 to location on

the left side of the road.

PROPOSED CASING PROGRAM:

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth Set
	20"	.25 wall	X42	PE welded	100-120
17-1/2"	16"	65#	H-40	BTC	0'-600'
*** 15"	13-3/8"	68#	J-55	BTC	0'-2700'
12-1/4"	9-5/8"	47#	N-80	LTC	0'-5,800'
8-1/2"	5-1/2"	17#	N-80	LTC	0'- 7100'

^{***} contingency only – set only if hole conditions dictate

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
30"	20"	Conductor	Na			
20"	16"	15.062	17.0	.7854	.7854	1.2476
*** 15"	13-3/8"	12.259	14.375	.2927	.2927	.8406
121/4"	9-5/8"	8.525	10.625	0.3127	0.4659	0.4340
8-1/2"	5-1/2"	4.767	6.050	0.2291	0.2291	0.1305

^{***} contingency only - set only if hole conditions dictate

GEOLOGIC INFORMATION:

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal Psi
Arapien	Surf – 5504*	Surf-6010'	sh, siltstone, salt, evaporites		
TwinCreek1	5504'- 5800'	6010' -6325'	Carbonates	X	
Navajo 1	5800- 6350'	6325' -6900'	Sandstone w/ minor shale	X	
Total Depth	6550'	7100'	Sandstone w/ minor shale		

CONSTRUCTION OF SURFACE LOCATION

360'x 180' Pad 150'x 100' x 10' Reserve Pit with a 12 mil synthetic liner 96" diameter tin horn cellar, 10' deep. Flare pit a minimum of 100' from wellhead.

SURFACE HOLE: 0' to 600'

Directionally drill a 17-1/2" hole with a TCI rock bit, mud motor & MWD equipment to approximately 600' using fresh water and gel/lime sweeps when necessary (make hole to fit 16" casing). Loss circulation is not expected to be a problem in this interval. If losses do occur, begin pumping LCM sweeps. If loss circulation cannot be healed with ±25 ppb LCM, consider dry drilling (no returns). Maintain hole direction to approximately 230 degr azimuth in keeping with the attached directional plan.

PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE

Bottom to Top

20" drilling nipple – returns to mud pits – no pressure control

MUD PROGRAM FOR SURFACE HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	PH_	FLUID LOSS				
0 -600'	8.4 – 8.9	FW/Gel/Lime	26-45	7-9	N/C				

Note: Sweep hole every 100 - 200 feet or as needed for hole cleaning. Control the pH with Lime & Caustic to aid in gel flocculation for better carrying capacity.

CASING PROGRAM FOR SURFACE HOLE

DEPTH	SIZE_	LENGTH	WT	GRADE	THREAD	REMARKS
0 - 600'	16"	600'	65#	H-40	BT&C	

Casing Running Sequence:

guide shoe

1 jt of 16" 65# H-40 BT&C

Float collar

Balance of 16" 65# H-40 BT&C

Centralizers as reqd.

RU cement co., hold safety meeting, test lines, cement 16" casing per cement company recommendation. Displace with fresh water or mud if used.

CEMENTING PROGRAM FOR SURFACE HOLE

Lead:

855 sx Premium Class G Mixed at: 15.8 ppg $1.17 \text{ ft}^3/\text{sx}$ 2% calcium chloride Yield: 5.01 gal/sx 0.25 lb/sx flocele Water:

MUST CIRCULATE CEMENT TO SURFACE If the cement does not circulate to surface contact the UDOGM office for further instructions and remedial actions.

WOC A TOTAL OF 24 HOURS:

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on a 16-3/4" 3M x 16" SOW casing head. NU 20" 2M diverter w/ 7-1/16" HCR valve rigged to mud/gas separator, mud tanks and flare pit.

PROTECTIVE CASING HOLE: 600' to 5800'

Directionally drill a 12-1/4" hole with a PDC and/or a TCI rock bit, mud motor & MWD equipment to approximately 5800' MD using a low solids – non dispersed system converting to salt mud in the lower portion. Loss circulation may be a problem in this interval. If losses do occur, begin pumping LCM sweeps. If loss circulation cannot be healed with +25 ppb LCM, consider dry drilling (no returns). If conditions are severe consider implementing a contingency for casing the problem zone with 13-3/8" csg as outlined above. Build hole angle to approximately 28 degrees by 2000' then maintain hole angle and direction to casing point in keeping with the attached directional plan. Protective casing should be set near the base of the Arapien interval to isolate potential poor hole conditions prior to drilling potential pay zones in the Twin Creek Lime.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PROTECTIVE CASING STRING

Bottom to Top (see attached 2M Diverter diagram)

16-3/4" 3M x 16" SOW csg head. 16-3/4" 3M x 20" 2M spacer spool

20" 2M x 20" 2M x (2) 7-1/16" 2m side outlets one outlet 7-1/16" HCR valve w/6" blooie line to mud separator & flare pit one outlet (blank)

20" 2M Annular Preventer

20" 2M flanged btm drilling nipple w/ fillup line

Upper kelly cock valves with handles available Safety valves and subs to fit all drill string connections in use Inside BOP or float sub available

Testing Procedure:

Annular Preventer & HCR Valve

The annular preventer will be pressure tested to 1000 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have two (2) independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

MUD PROGRAM FOR PROTECTIVE CASING HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	pН	FLUID LOSS
				_	
600' – 5800'	8.7 - 9.6	LSND	34-45	9.0-10.0	12cc or Less

If required, implement a natural breakover to a salt or gypsum system as salt and gypsum sections are drilled. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole. Implement casing contingency if absolutely necessary.

CASING PROGRAM FOR PROTECTIVE CASING HOLE

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0' – TD'	0_5/8"	5800'	Δ7#	N-80	LT&C	
0 - 1D	9-3/6	3000	→ / 17	14-00	Litte	

Rig up casing tools and run 9-5/8" protective casing as follows:

Float shoe, 2 joint of 9-5/8" 47.0# N-80 LT&C casing, Float collar, 6 Centralizers, middle shoe joint and one every other joint for 12 jts, run balance of 9-5/8" 47# N-80

CEMENT PROGRAM FOR PROTECTIVE CASING

725 sx (50:50) Poz: Premium

Weight: 13.8 Yield: 1.43

13.8 ppg 1.43 ft³/sx

3 % Bentonite 0.3% Halad R-344 (Low Fluid Loss Control)

Water:

6.45

0.3% Halad R-344 (Low Fluid Loss Congal/sx

15 % Salt

0.3% D-AIR 3000 (Defoamer)

0.25 lb/sx Flocele

TOC at + 3500 ft

Calculate cement volume based on gauge hole plus 30% excess. Displace with mud. Set slips, ND diverter stack, cut off, NU & test wellhead. Clean pits and prepare for next hole section.

PRODUCTION HOLE: 5,800 to 7100'

Trip in the hole with an 8-1/2" insert bit, mud motor & MWD. Drill float, shoe and 20'of new hole. Perform an integrity test to 500 psi w/ 9ppg mud (10.5 ppg mud wt equivalent). Drill with a low colloid polymer system.

PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PRODUCTION CASING STRING

Bottom to Top (see attached 5M BOP Stack diagram)

11" 5M x 9-5/8" SOW csg head.

11" 5M x 11" 5M mud cross w/ (2) side outlets

one outlet 2-1/16 5M kill line

one outlet 3-1/16" 5M choke line

11" 5M double ram blowout preventers with 4-1/2" pipe rams top & CSO rams btm

11" 5M annular preventer

11" Rotating head w/ fillup line

Connect BOP to choke manifold with pressure guage
Upper kelly cock valves with handles available
Safety valves and subs to fit all drill string connections in use
Inside BOP or float sub available

Testing Procedure:

Annular Preventer

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 4) When the annular is initially installed
- 5) Whenever any seal subject to test pressure is broken
- 6) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

Blowout Preventer

The BOP, choke manifold and related equipment will be pressure tested to 4500 psi, or 70% of the internal yield of the casing. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed:

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have two (2) independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter. The accumulator pressure will be corrected if the measured pre-charge pressure is found to be

above or below the maximum or minimum limits specified in Onshore Oil & Gas Order Number 2 (only nitrogen gas may be used to pre-charge).

Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this well.

A flare line will be installed after the choke manifold, extending 100 feet from the center of the drill hole to a separate flare pit.

MUD PROGRAM FOR PRODUCTION HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	pH FI	LUID LOSS
5800' - 7100'	8.7 - 9.9	LC Polymer	34-50	9.0-10.0	10cc or Less

EVALUATION PROGRAM FOR PRODUCTION HOLE

At TD, circulate and condition hole clean for logs. Short trip to the intermediate casing monitoring well closely. TOH for logs.

Mudlogger: From 1500' to total depth.

Electric Logs:

Tool	ICP to TD
Dipole Sonic w/ GR	Yes
Dual laterolog and microlog w/ GR & Caliper	Yes
LithoDensity/Neutron w/ GR & Caliper	Yes

<u>DST:</u> To be decided <u>Cores:</u> To be decided

CASING PROGRAM FOR PRODUCTION HOLE

_DEPTH _	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0' - TD'	5-1/2"	7100'	17#	N-80	LT&C	

Rig up casing tools and run 5-1/2" production casing as follows:

Float shoe

2 joints of 5-1/2" 17# N-80 LT&C casing

Float collar

Centralizers as read.

Run balance of 5-1/2" 17# N-80.

CEMENT PROGRAM FOR PRODUCTION CASING

245 sx (50:50) Poz: Premium	Weight:	14.35 ppg
2 % Bentonite	Yield:	$1.23 \text{ ft}^3/\text{sx}$
0.3% Halad R-344 (Low Fluid Loss Control)	Water:	4.81 gal/sx
5 % Salt		-
0.25 lb/sx Flocele		

TOC at \pm 5500 ft in 9-5/8" csg

Calculate cement volume based on log caliper +/- 25%. Displace cement w/water. Set slips, ND BOP's, cut off, NU & test wellhead. Clean pits and release rig.

SCHEDULE

Location preparation is presently scheduled to begin on or about November 15, 2004 Drilling operations are anticipated to begin on or about December 10, 2004

end

PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by: EXACT Engineering, Inc Tulsa, OK (918) 599-9400

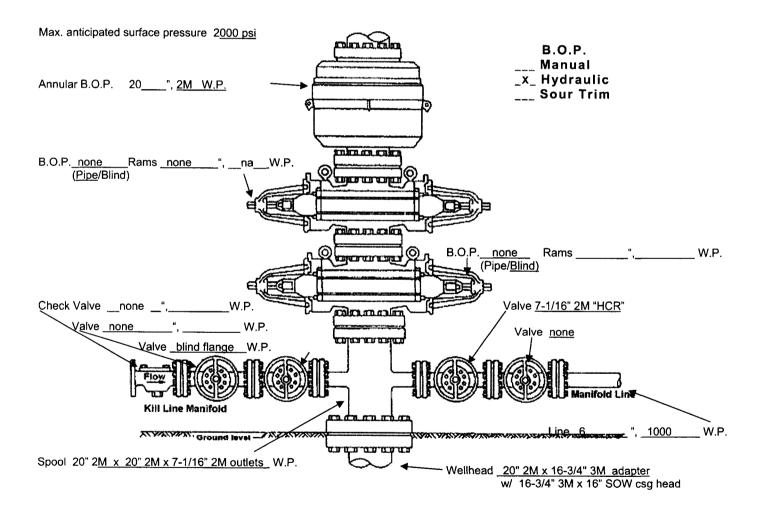
2M Diverter Stack --- to be utilized while drilling holes for surface and protective casing thru Arapien formation section

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal #17-3



PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by: EXACT Engineering, Inc Tulsa, OK (918) 599-9400

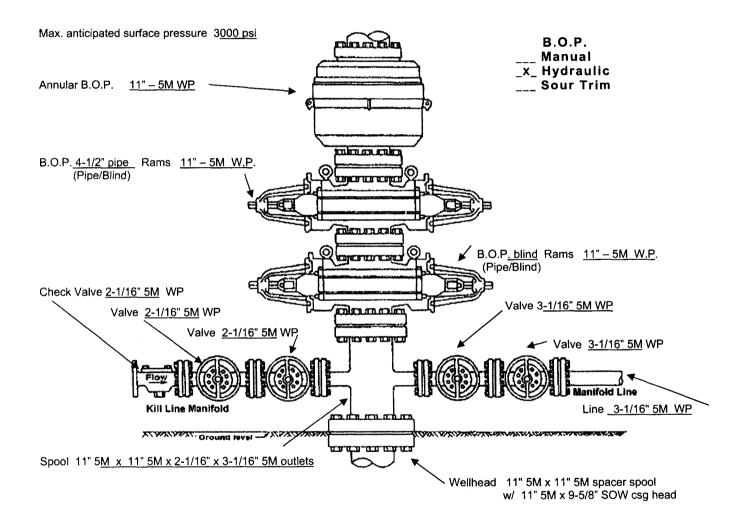
5M BOP Stack --- to be utilized while drilling holes for production casing thru Twin Creek & Navajo intervals

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal #17-3



EXACT Engineering, Inc. 415 S. Boston Ave., Suite 734 Tulsa, Oklahoma 74103

EXACT Engineering, Inc.www.exactengineering.com

Steven R. Hash, P.E.

office office fax

918.599.9400 918.599.9401 Steve 24/7 & mobil 918.599.9801 stevehash@exactengineering.com

Fax

То:	Al McKee (BLM) &	Dustin Doucet (UDOGM)	From:	Steve Hash				
Fax:	(801) 539-4200	(801) 359-3940	Pages:	3 total				
Phone:	(801) 539-4045	(801) 538-5281	Date:	Dec 18, 2004				
Re:	Wolverine Federal	#17-3 – addl info	CC:					

Dear Mr McKee & Mr Doucet,

Attached please find schematics for the BOP equipment that was described in our drilling procedure recently submitted for the referenced well by sundry notice. These diagrams are for BOP configurations that will be utilized for the protective casing hole (2M) and the production casing hole (5M). Please call if further questions or concerns. Thanks for you cooperation.

Regards, Steve Hash

PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by: EXACT Engineering, Inc Tulsa, OK (918) 599-9400

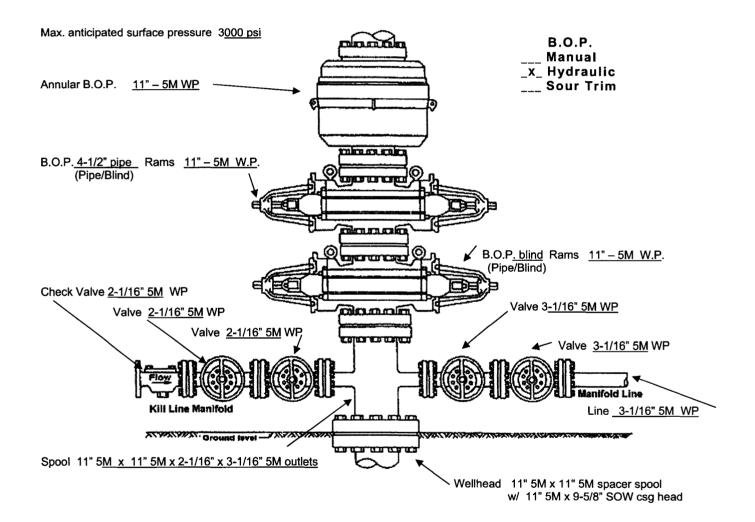
5M BOP Stack --- to be utilized while drilling holes for production casing thru Twin Creek & Navajo intervals

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal #17-3



PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by: EXACT Engineering, Inc Tulsa, OK (918) 599-9400

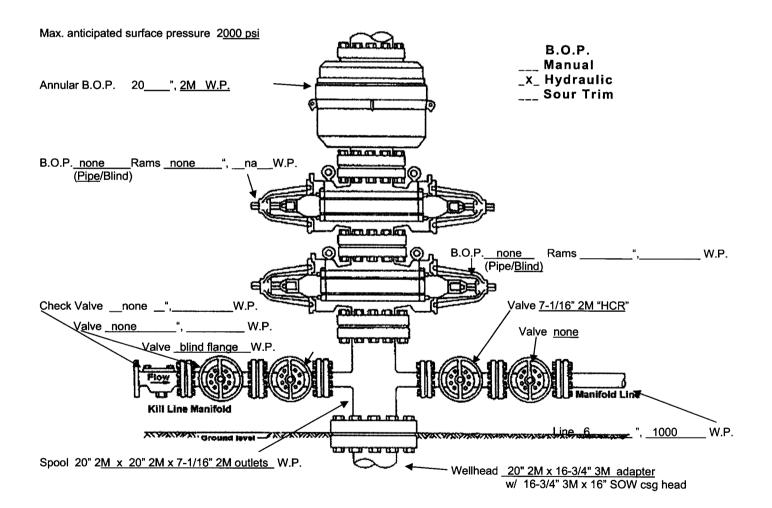
2M Diverter Stack — to be utilized while drilling holes for surface and protective casing thru Arapien formation section

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal #17-3



EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

CONFIDENTIAL

December 18, 2004

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Wolverine Federal 17-3 well Sec 17 T23S R01W Sevier Co., UT API# 43-041-30036

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily activity reports for the subject well from initial report on December 5, 2004 (spud Dec 10, 2004) through December 17, 2004. Our present status is drilling at 3528' and we now anticipate setting a 9-5/8 inch protective casing string near 5800'. This is in accordance with our latest Sundry Notice dated Dec 9, 2004. We respectfully request that the enclosed information remain confidential.

Very Truly Yours,

Steven R. Hash Consulting Engineer for Wolverine Gas and Oil Company of Utah, LLC

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC: Richard Moritz, Sue Benson EXACT Engineering, Inc.

well file

RECEIVED DEC 2 / 2004

DIV. OF OIL, GAS & MINING

Petroleum Engineering Consulting, Personnel & Jobsite Supervision complete well design, construction & management, drilling, completion, production, pipelines, appraisals, due diligence, acquisitions, procedures, temporary personnel and field supervision

Engineering & Supervision EXACT Engineeri											ing, Inc.	1			(9	18)	599	9-9400							
Ope	erato	or: W	olveri	ne G	&O Co	of Utal	, LLC			DAILY DRILLING REPORT						24 hrs - midnight to midnight									
DATE			WELL					CON	TRACT							UNTY, STATE	SPUD DATE		API#				SUPERVI		
	2/17 F/ SP				PERATION			Unit Rig #111				GRESS	Se	evier, UT	10-Dec				36 Darren Naylor RMATION LAUTH, DEPTH						
	8					Drilling				;	3,528			625		23.	.50_	26.6		5	urf	ace		550'	7100'
		_					_					- 1-	Μl	JD DA	ΙΤΑ			-						-	
	WT	-	VIS.	7	WL	_		PH	_	ND 50	SOLI		Ρ	_	ΥP	GELS	DEPTH	DATE/TIME		ORIDI	-		ALCIUM	мвт	SALT PPM
	9.8		35	<u> </u>	44.0	3.	/32 1	0.5	U.	.50	5.	.0	5		8	4/7	3415	12/17/17:15	93	3,000	,		2000		
BIT	SIZI	E MF	G.	Т	YPE	IADC	SERIAL	NO.	T	JETS	(1/32nd")		BI	N I	OUT	FOOTAGE	HOURS	ROP	_	MTR	RP	М	WOB	DULL	CONDITION
NO.			_			CODE					TFA	1 10	-			2010					RT+I	-	10/05	7 1	G G
2	12.2	50 D	PI	MP	54-B2	437	2016	038	6 x 1	16	- 	1.18	61	15		2913	82.00	35.5 #DIV/0	_	Y	15	0	10/25	\vdash	
ᅥ		+	┽				 		-	╫			┢	+		-		#DIV/0		\dashv		ᅱ		╁┼	-
\dashv		-					† —			+	\dashv		<u> </u>	\dashv			· · · · · · · · · · · · · · · · · · ·	#DIV/0				\dashv			
						-			· · · · · · · · · · · · · · · · · · ·	HY	DRAUL	ICS											SLOW	PUN	P
PUI	MP	MANUFA	CTURE	R	LINER	STROKE	GAL / ST	ĸ s	РМ	GPM	AV DF		/ DC	PUMP	<u> </u>	MTR DIFF	НН	P/IN ²	EC	D					n 100 spr
NO	- +			+		LENGTH			25		 	╀		PRESS	S.	PRESS.				-	_		_	 	 -
	-+		onal	+	6.25	8.5	3.22	+	05	338	-	+			+					╢	1	\dashv	-	 	
Bo	$\overline{}$	nati	onal	+	6.25	8.5	3.22 6.44	+-	05 10	338 676	128	+	33	1900	+	300			_	\dashv	2	- 1		L	
	- T		==	DR	ILL ST	RING	0.11		-	-	1 ,20		-	100	<u> </u>	GEOLOGIC			_			_	GENER	ΔΙΙΝ	FO
ВС	ттом	HOLE AS	SEMBL		LENGT		O.D.		1.D.		FORMAT	ION		MD	1.	TVD		LITHOL	OGY					INFO	
Bit					1	.50		Ļ		_ _			<u> </u>		\downarrow			ļ]	Rig	No.			Unit 11
Mot	or			4		.00		-		_			_									-645-667			
_		bilizer		+		.50		╀		-⊩		GAS DATA			<u> </u>						12/14				
		onels		+		2.00		┿		BC	TOMS	JP TIMI	E	G GAS	Ŧ	CONN	BAS	TRIP GAS					OP Tes		12/14
		sub spiral	wt	+		0.00		╁┈		╁		140	<u> </u>	FROM		SHOWS TO		J	-/				OP Dril		12/14
_		piral w		\dagger		0.00		-			GAS UN	115		PROM_			ROP (F1	1/HK)	\dashv			perate l			
jar		,p.,, a.,	<u> </u>	\top		2.00							十					(perate I				
	tal B					,102.00								KB KB ELEVATION						Las	st O	perate	Annul	ar 12/14	
	128	VT. B	75	+	150			RO	T. TORC 550			G				INTERMEDI	ATE C	SG	L		ASING	NE.	T CASING 5800		
	120		/3	_	130		110		330		5,736 17 5,753 SURVEYS			013 3000				3000							
М	D	INCL.	AZIMI	лн	TVD	SECTION	N+/S-	E+	/W-	DLS	TOOL		MD	INCL		AZIMUTH		TVD	SEC	TION	N+	/ S-	E+ / W-	DLS	TOOL
				\Box				$oxed{oxed}$			MWI														MWD
							<u>L</u>				MW														MWD
													DAIL	Y AC	ΤΙV	İΤΥ									
FR 0:	$\overline{}$	то 16:30	16.	$\overline{}$			ITVEYS			399															
16	-	17:00	0.5	_		servi		2000	, (0 0	-								- 00		-, r		-, ,	T-10		
17	-	0:00	7.0	_			rveys	3399	to 3	528				_					NF	-11	11-	·M	ΠA		
0:	00																				-	. 1 3	1 17 1	=	
_	00			4																					
_	00		<u> </u>	4																					
	00			4							-														
_	00		├	\dashv					-															-	
	00 00			+						-												-			
_	00		_	┪																			-		
	00																								
0:	00																								
	00		<u> </u>	_																					
_	00		<u> </u>	_																					
	00			\dashv							-			_											
0:	00	-	├-	\dashv																					
Da	ily T	otal	24.	ᇷ										-											

			Engin	eering	& Sup	ervisio	n		E	(AC	ΓΕι	ng	inee	rin	ıg, Inc.	1			(9	18) 5	99-9400		
Оре	rato	r: W	oiverine	G&O Co	of Utal	h, LLC		ַ ע	ΑIL	YD	RII	LL	ING	R	REPOF	RT		4 hrs	s - n	nidnig	ht to mi	dnight	
DATE		l	WELL			47.0	CONTR			N:- 444	. 4				TY, STATE	SPUD DATE 10-Dec	42.0	API#	000		SUPERVI		
DAYS	2/16, F/ SPI			PERATION PER					AL DE	Rig #11 PTH		PROG	RESS	Sev	ier, UT	NG TIME	43-04 ROP			O MOITAN		rren Na H. DEPTH	ylor
-	7				Drilling	9			2	,903			638		18	.50	34.5			urfac	e (3550' /	7100'
			100	14.0		ov I s	u I	SANI		SOLIDS	_	MU	D DAT	_	GELS	DEPTH	DATE/TIME	CHI	ORIDE	: c	CALCIUM	MDT C	ALT PPM
	<u>мт</u> 9.2	-	vis. 34	36.0	-	-+	н .5	0.5	\rightarrow	4.3	-	5		′Р 7	4/5	2677	12/16/18:00		0,000	-	1800	MBT S	ALI PPM
											_	BI	T DAT/	A A									
BIT NO.	SIZE	MF	G.	TYPE	IADC CODE	SERIAL	NO.	J	ETS (1.			IN	O	UT	FOOTAGE	HOURS	ROP	Ĩ	MTR	RPM RT+MTF	WOB	DULL C	ONDITION
_	12.2	50 DF	PI ME	254-B2	437	20160	38 6	x 16			18	61	5		2208	58.50	37.7		Υ	150	10/25		
																	#DIV/0	!					
							4										#DIV/0	-				<u> </u>	
						<u></u>			<u> </u>				Щ.				#DIV/0	!			<u> </u>	<u> </u>	
PUN	БΙ	MANUFA	CTURER	LINER	STROKE	GAL / STR	SPM		HYD PM	RAULI AV DP	CS	ю	PUMP		MTR DIFF	нн	P / IN²	EC	D.			PUMP	100 spm
NO					LENGTH	1						4	PRESS.		PRESS.								
1	4	Natio		6.25	8.5	3.22	110	-	54			4		_						1	<u> </u>	 	
2	_	Natio	onal	6.25	8.5	3.22 6.44	110 220		54 08	134	16:	,	1550		300				╌╢	2	<u> </u>	L	<u> </u>
Bo	n j		 _	RILL ST	PING	0.44		' _'	00	134	10,	<u> </u>	1000	<u></u>	BEOLOGIC	<u> </u>		<u> </u>	<u>_</u>		GENER	AL INE	
ВО	ттом	HOLE AS		LENGT		O.D.	I.	D.	Ē	ORMATIO	N		MD	\square	TVD		LITHOL	OGY	⇉			INFO	
Bit					1.50				╟_		_			_			ļ			Rig N			Unit 111
Mote					9.00				╟		\dashv			_			_			Cell N			45-6671
		bilizer onels			5.50 2.00						TIME				GAS DATA		1				BOP Tes		12/14
_		sub			2.00				BO	TOMS UP	TIME	В	3 GAS	_	CONN	3AS	TRIP	AS			Safety M		12/14
		spiral	wt.		0.00				E	GAS UNIT	s	F	ROM		SHOWS TO		ROP (F1	7/HR)			BOP Dril		12/14
26 -	5" s	piral w	t.	780	0.00																Operate		
jar					2.00				┞		-			-			ļ		4		Operate I		
	al B		HA WT.	1,102 PUW		SO WT.	ROT. 1	FORQUE	GR	D. ELEVA	TION	GL	то кв	<u> </u>	KB ELEV	ATION	INTERMEDI	ATE C	sg		Operate r casing		12/14 CASING
	75		75_	75		75				5,736			17		5,75	3					615	5	800
											,	_	JRVEY	S								-	
2,3	_	1NCL.	AZIMUTH		SECTIO	N N+/S- O #####	E+ /V		.30	MWD	2.5	$\overline{}$	31.70	┢	224.40	 	491	506	_	N+/S-	E+/W- # #####	0.60	MWD
						0 #####								\vdash	226.70		801				# #####	 	-
													Y ACTI										
FR	$\overline{}$	TO	HRS			IIDNIGHT TO																	
0:0	_	10:00 11:00	10.00			irveys 2 ns. Up 8			1 1														
11:		12:30	1.50						e cs	ng. Tri	p we	nt v	vell ho	le lo	ooks good		11				. 6 1 1	П	
12:	_	13:30	1.00			elly spin									Ţ		Cit	213		UL.	.1111.	riL_	
_	_	15:00	1.50	RII																			
_	_	15:30	0.50			to btm											·		_		-		
15: 0:0	$\overline{}$	0:00	8.50	Dr.	ill & St	ırveys 2	541 t	0 290)3														
0:0	_															· · · · · · · · · · · · · · · · · · ·	<u> </u>						-
0:0	_																				•	-	
0:0	00																						
0:0	_																						
0:0	_		 	 			_																
0:0	_		<u> </u>	-																			
-	00			†																			
-	00																						
				ļ																			
I Da	ily T	otal	24.00	1																			

			Engir	eering	& Sup	pervisio	n		EX/	4C 1	ΓΕι	ng	inee	rir	ng, Inc.	•			(9	18)	599	9-9400			
Ope	erato	or: W	/olverine	9 G&O C	of Uta	h, LLC		D A	AIL'	Y D	RII	LL	ING	F	REPOR	RT		4 hr	s - n	— nidn	igh	t to mic	dnigh	t	
DATE			WELL				CONTRA						- 1		TY, STATE	SPUD DATE		API#			Ť	SUPERVIS	SOR		
	2/15 F/ SF			Verine F					nit Rig			PROG	RESS	Sev	ier, UT	10-Dec	43-04 ROP	41-3		6 MATIO	N.		rren i H. Dep		lor
	6				Drillin				2,2				920			.50	39.1			surfa			3550'		100'
												MU	D DA1	Α			***								=
	WT		VIS.	WL		CK F	М	SAND		SOLIDS	%	PV		ΥP	GELS	DEPTH	DATE/TIME	CHL	ORID	ES	C/	ALCIUM	мвт	SAL	T PPM
	9.2		35	16.0)	2 8	.5	0.50		5.5		8		6	4/5	1080	12/14/16:00	14	4,00	0	1	200			
BIT	SIZ	- I M	=G. I	TYPE	IADC	SERIAL	NO. I	ić.	TS (1/32	a dill\		BI	DAT	A OUT	FOOTAGE	HOURS	ROP		MTR			WOB	5.00	201	DITION.
NO.	512	- MI	-G.	ITPE	CODE	SERIAL	NO.	JE	or TFA	nu)		114		,01	POOTAGE	HOURS	ROP		MIR	RPI RT+M	- 1	WOB		CON 3	IDITION G
2	12.2	50 D	PI M	P54-B2	437	20160	38 6	(16		1.	18	61	5		1650	40.00	41.3		Υ	15	0	15		\perp	
		\bot	_					_		1	_						#DIV/0	!			4			_	
\dashv		<u> </u>						_		+	4		-				#DIV/0		\sqcup		_		_	+	
						<u> </u>	L			<u> </u>						<u> </u>	#DIV/0	!							
PUI	un I	AAAAU IS	CTURER	LINER	STROKE	E GAL / STI	SPM	GP	IYDR/	V DP	CS AV D	c T	PUMP		MTR DIFF	Т ии	P / IN ²	EC		-		SLOW 60 spm			00 spm
NO		WIANUFA	CIUKEK	LINER	LENGTH		3FM	Gr		VUF	AVD		PRESS.		PRESS.		F / IIN		טי			oo spiii	ou sp		oo spin
1		Nat	ional	6.25	8.5	3.22	110	35	4											1					
2	<u>:</u>	Nat	ional	6.25	8.5	3.22	110	35	4			_				ļ				2				\perp	
Во	th					6.44	220	70	8 -	134	162	2	1550		300					L					
				RILL S1		2.5	11 15	\Box	500	144710				_ (SEOLOGIC		Little				(GENER		FO	
Bit	TION	HOLE AS	SEMBLY	LENG1	.50	O.D.	I.D.		FOR	MATIO	<u> </u>		MD		TVD		LITHOLO	OGY		Rig	Νo		INFO	Lir	nit 111
Mot	ог			+	0.00						1						 			Cell			918		5-6671
		abilizer		_	5.50	,		7												-		OP Tes		$\overline{}$	12/14
2 - 8	3" m	onels		62	2.00				вотто	MS UP	TIME	BG	GAS		GAS DATA CONN C	GAS	TRIPG	ĀS		Nex	d B	OP Tes	t		
8" s	hoci	sub		12	2.00										5115125					Las	t Sa	afety M	eeting		12/14
_		spiral		180	0.00			_	GAS	UNITS	3	Fl	ROM	\vdash	SHOWS TO		ROP (F1	/HR)				OP Drill	_	-	12/14
	5" s	piral w	rt.	+	0.00						\dashv			├			-					oerate F		$\overline{}$	
jar	4-1.5			1,102	2.00						\dashv			┼			-		\dashv		·····	perate E		_	40/44
	tal E		HA WT.	1, 102 PUW		SO WT.	ROT. TO	RQUE	GRD. E	LEVAT	ION	GL	то кв	\vdash	KB ELEV	ATION	INTERMEDIA	ATE C	SG			perate /			12/14 ASING
	75		75	75		75			. 5	,740			17		5,75	7				Ĺ	61	15		580	10
												_	RVEY												
M	_	12.80	228.60		161.0	_	E+/W-	1.9		OOL IWD	1,92	_	18.00	+	228.50	 	905		7.00	N+/ ###	$\overline{}$	E+/W- #####	1.50		MWD.
1,5			229.30			0 #####		_		IWD	2,32	$\overline{}$	26.90	-	226.90		903 278					#####		_	MWD
		21.00	1220.00	1 2100	000.0	0	1		30 N				ACT					-			<i>"</i> " 1	#####		_	
FR	ОМ	TO	HRS	24 H	OURS - N	IDNIGHT TO	MIDNIGH	T				\IL.	AOT		<u> </u>										
0:0	$\overline{}$	11:30	11.50	+		rveys 1	345' to	1835	5'																
$\overline{}$	$\overline{}$	12:00	0.50	Riç	servi	ce																			
	:00	0:00	12.00	Dri	II & su	rveys 1	835' to	2265	5'									11		بب		; ; ; , ,	1		
0:0	_		-	 					-										1 1			111	-		
0:0	_		 	-																					
0:0				 	-								-												
	00																								
0:																									
0:	_																								
	00																								
0:	-			 																					
	00		ļ																						
	00			1																					
_	00 00			+																	-				
$\overline{}$	00		 																					-	
٣				1																					
Da	ily T	otal	24.00																						

COSTINATA

		-	Engin	eering	& Sup	pervis	ion		E	XAC	T	Eng	gin	eer	ing	j, Inc.				(918)	59	9-9400		
<u> </u>	rato			G&O C	of Utal	h, LLC				ILY	DI	RIL	LI			EPOF			24 hr	rs - 1	midr	_	t to mi	•	
	2/14	/04		verine F			CON	NTRACT	Uni	t Rig#	111			S		, STATE r, UT	SPUD DATE 10-Dec		API# 41-3	3003		ŀ		rren Na	
DAYS	F/SP 5	UD	PRESENT	OPERATI	ons @ м Drilling				TOTAL	1,345		PRO	GRES	ss 30	ļ		NG TIME .50	ROP 44.2		ı	Surf			H. DEPTH 3550' / 1	
<u> </u>										-,		М		DATA				1=		l				7000 1	
	WΤ		VIS.	WL		ск	PH	 	AND		IDS %	$\overline{}$	٧٠	ΥP		GELS	DEPTH	DATE/TIME	СНІ	LORIC	ES	CA	LCIUM	MBT S	ALT PPM
	9.1		34	20.0)	2	9.0	<u> </u>).50	5	.5		8	3		3/4	1080	12/14/16:00	1	,400	0		510		
BIT	SIZI	E MF	G.	TYPE	IADC	SERIA	AL NO.	T	JETS	(1/32nd")			IN L	ATA OUT		FOOTAGE	Hours	ROP		MTR	RP	м	WOB	DULL CO	ONDITION
NO.	12.2	50 D) NAT	354 D2	CODE	201	2020	6 4	$\overline{}$	r TFA	1 11		15		+	720	16.50	44.2			RT+I	\rightarrow	45	T B	G
2	12.2	50 DI	- MI	P54-B2	437	201	6038	6 x	18	+	1.18	╬	15		+	730	16.50	#DIV/0	1	Y	24	10	15		
H						T			十						\top			#DIV/0							
															1		L	#DIV/0	!						
					1					DRAU	_													PUMP	
PUN NO	- 1	MANUFA	UTURER	LINER	STROKE LENGTH		ik S	PM	GPM	AV DI		AV DC		JMP ESS.		R DIFF RESS.		P / IN²	EC	D		\dashv	ου spm	80 spm	100 spm
1		Nati	onal	6.25	8.5	3.22	2 1	10	354		Ţ			\Box											
2	$\overline{}$	Nati	onal	6.25	8.5	3.22	_	10	354	1	4	100	L	_			<u> </u>				2	2			
Bot	th			RILL S	FOUNCE	6.44	2	20	708	134	<u> </u>	162	15	550		300 OLOGIO	<u></u>		<u> </u>				APINE -	AT INF	
ВО	гтом	HOLE ASS		LENG		O.D.		I.D.	\pm	FORMAT	rion		MD	\neg	GE	TVD	_	LITHOLO	OGY					AL INF	<u> </u>
Bit			_		1.50																Rig	No			Unit 111
Moto		L !!!			9.00	 -	-		╬			+									<u> </u>	l No			45-6671
-		bilizer onels			5.50 2.00		+-	-	╌	оттомѕ	15 ти	MET	BG GA			GAS DATA		TRIP G			_		OP Tes		12/14
8" sl					2.00		1		╫	JITOMS	JP 111	WIE	BG G/	**		CONN	343	IRIPG	AS		_		afety Mo		12/14
6 - 6	5/8	spiral	wt.	18	0.00				E	GAS UN	IITS		FROM	У		SHOWS TO		ROP (F1	/HR)		Las	st B0	OP Drill		12/14
26 -	5" s	piral wi	<u>. </u>		0.00		_		_			_		\dashv					_		_			ipe Ran	
jar	al B	НΔ·		1,10	2.00								_	\dashv										llind Rar Annular	12/14
	NG W		HA WT.	PU W		SO WT.	RO	T. TORG	QUE	RD. ELEV	/ATIO	N C	L TO	кв		KB ELEVA	ATION	INTERMEDIA	ATE C	SG			ASING		CASING
	75		75	75		75			<u> </u>	5,74	0		17	VEYS		5,75	7				<u> </u>	61	5	58	300
ME	- T	INCL.	AZIMUTH	TVD	SECTION	N N+/S	- E+	/W-]	DLS	тоог	L II	MD	_	ICL.		ZIMUTH	<u> </u>	rvo	SEC	TION	N+	/ S-	E+ / W-	DLS	TOOL
83	1		242.00			-19.0		-	1.08	-	—⊩	1,195	6.	.70	2:	27.10	1	191	78	.17	-42	.38	-67.71	0.77	MWD
1,2	86	8.40	228.10	1281	90.13	-50.4	4 -70	6.55		MW	D		L_				<u> </u>		<u> </u>						MWD
FRO	M	то	HRS	24 H	OURS - M	IDNIGHT	TO MIDI	NIGHT				DAIL	.Y A	CTIV	ITY										
0:0	\rightarrow	4:00	4.00	Те	st well	head,	spool	ls, div	verter	, hcr v	alve	e, upp	er 8	k lowe	er ke	elly valvo	es & casir	ng to 1000 j	psi.	for '	15 m	in.			
4:0	_	6:00	2.00		-			_	_				Uni	it safe	ety v	vith Unit	safety m	an.	_						
6:0 7:0	_	7:00 14:00	1.00 7.00		g Cem ill & su					ent & s	hoe) <u>.</u>													
14:	_	14:30	0.50	-	Servi		010 (.0 10					_												
14:	_	0:00	9.50		ill & su		1069	to 1	345'									i (À				MITI	ΛI	
0:0	_			<u> </u>															- 1	ा	10			1	
0:0	_			 						-															
0:0	_												_										<u> </u>		
0:0	$\overline{}$																								
0:0	_																							_	
0:0	_			-																					
0:0	_																								
0:0	-												_												
0:0	00									******					.,										
<u> </u>																									
Dai	ly To	otal	24.00	L																					

		Engin	eering	& Sup	ervisio	n	Е	XAC.	TEn	ıgin	iee	rin	g, Inc.				(918) :	599-94	00		
Opera	tor:	Wolverine	G&O C	of Utal	ı, LLC			LYC	RIL	LII			EPOF					nidni	ght to			
DATE 12/1 DAYS F/S	3/04		verine F			CONTRA		Rig #11		ROGRE	8		Y, STATE er, UT DRILLI	SPUD DATE 10-Dec NG TIME	43-0	^{АРІ#}	3003	6 MATION		Darı	or ren Na . depth	
	4			woc				615			0			00	#DIV/0	ł	ı	surfa			550' /	
			14.5		ou -	I	2415	Lague		MUD												
9.1	+	vis. 51	WL 12.0			.0	0.50	SOLIDS		12	16	-	GELS 12/18	DEPTH 540	12/12/08:00	-	LORID 1,100	_	CALCIUM 120	1	ABT S	ALT PPM
										BIT							,,,,,,			_		=
BIT SI	ZE N	IFG.	TYPE	IADC CODE	SERIAL	NO.		(1/32nd") TFA		IN	OU	JT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MT	wo	В	DULL C	ONDITION
					•		T	T							#VALUE	——. ≣!		1000		\dashv	1	Ť
															#DIV/0	!						
	\perp										ļ				#DIV/0					_		
											<u></u>	1		<u> </u>	#DIV/0	!			<u> </u>	\perp		
PUMP	MANUE	ACTURER	LINER	STROKE	GAL / STK	SPM	HYI GPM	AV DP	CS AV DO	: Грі	JMP T		ITR DIFF	І нн	P / IN ²	E	ח				PUMP	100 spm
NO.				LENGTH	1		""				ESS.		PRESS.	1,10					00 3		-c spiii	тоо эрпт
1		tional	6.25	8.5	3.234	ļ	#####	† 	<u> </u>	\bot						<u> </u>		1		\perp		igsquare
2	Na	tional	6.25	8.5	3.234	Han	#####	 		+	150		200			<u> </u>		2				Щ
Both			BU 1 65	FRING	6.468	#####	#####	68	73	1	150		300	<u> </u>					- AFN	-57		_
вотто	MHOLE A	SSEMBLY	RILL ST		O,D.	I.D.		FORMATIO	N N	MD	, 1	G	EOLOGIC TVD		LITHOL	OGY				EK/	AL INF	5
Bit																		Rig N	lo			Unit 111
Motor											_							Cell	Nc		918-6	45-6671
14 3/4		er											GAS DATA						BOP T			
2 - 8" n			 	2.00 0.00			ВО	TTOMS UP	TIME	BG G/	AS		CONN	SAS	TRIP	SAS			BOP 1		-4:	
8" shoo 6 - 6 5/		l wt		0.00				GAS UNIT		FROI			SHOWS]	- A LESS			Safety BOP D		eting	
9 - 5" s			 	3.00				GAS UNITS	*	FROI	М		10		ROP (F1	/HK)		\vdash	Operat		pe Ran	
																			Operat			
Total		BHA WT.	528	3.00	SO WT.	ROT. TO	DOUE O	35 FIEWS		O. TO	1/5		KB ELEVA	TION	INTERMEDIA	175.0	00		Opera			
STRING 65	WI.	65	65		65	RO1. 10	RQUE G	5,740	IION	GL TO 17			5,75		INTERMEDIA	AIEC	SG .	LAS	TCASING	+	NEX ?	CASING
							. U.	•		SUR		3	· · · · · · · · · · · · · · · · · · ·					i		_		
MD	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+ / W-	DLS	TOOL	MD	IN	VCL.	- /	AZIMUTH		rvd	SEC	TION	N+/S	- E+/	W-	DLS	TOOL
		 					<u> </u>	ļ	 							<u> </u>			-	4		igsquare
	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u>.l</u>	J	<u> </u>			7150						L				<u> </u>
FROM	то	HRS	24 H	OURS - M	DNIGHT TO	MIDNIGH	т		DA	ILY A	ACIIN	VIIY										
0:00	7:00	7.00	wo	С																		
7:00	11:30		 		eld head	1			,										- 1 e-ma 1	72 4		
11:30		+		ople Up				-	-							- 1	- 1					
21:00 0:00	0:00	3.00	PU	Motor	RIH to	700										-	: :	- 4 200	: . 1 1	4 15.		
0:00		1																				
0:00		†																				
0:00																						
0:00																						
0:00		-																				
0:00	<u> </u>	+																			•	
0:00	1	+																				
0:00																						
0:00																						
0:00																						
0:00			<u> </u>			<u> </u>																
D-::	[24.00	ļ <u> </u>																-			
Daily	otai	24.00	1											·								

			Engin	eering	& Sup	ervisio	n		EX	AC	ΓEn	ıgi	neer	ring,	, Inc.				(9	18) 59	9-9400)	
Ope	rator	r: W	olverine	G&O Co	of Utah	, LLC		D/	AIL	ΥC	RIL	_Ĺ	ING	RE	POF	रा		24 hr	s - m	nidnigh	nt to mi	dnight	
DATE			WELL				CONTR							OUNTY, S		SPUD DATE		API#			SUPERVI		
	2/12/0 F/ SPU				ederal		1		NIT RI			ROGE	SESS	evier,		10-Dec	43-04 ROP	41-3 I		ATION		rren N	
	3				WOC				61	15			7		0.	50	14.0		s	urface		3550' <i>i</i>	7100'
												_	DATA										
	мт 9.1		vis. 51	 12.0	-		°Н ′.0	0.50	-	SOLIDS 5.5		PV 12	16	_	GELS 2/18	540	12/12/08:00		.100	s c	ALCIUM 120	мвт	SALT PPM
	7.1		<u> </u>	12.0				0.00		0.0			DATA		2, 10	040	12/12/00:00		, 100		120	LL_	
ВІТ	SIZE	MF	G.	TYPE	IADC	SERIAL	NO.	JE	TS (1/3		1	IN	OUT		OTAGE	HOURS	ROP		MTR	RPM	WOB		CONDITION
NO. 1	17.50	0 ST	C GS	SSH=2	CODE	MJ38	20 3	x 24	or TFA	$\overline{}$	_	140	61	5	475	14.00	33.9		Y	RT+MTR 200	25	1 1	+
Ť																	#DIV/0	ļ.	T				
																	#DIV/0	!					
_						<u></u>											#DIV/0	!					<u> </u>
PUM	n I .	MANUFAC	TUBER	LINER	ETROVE	GAL / STI	d sрм	GF	HYDR	AULI AV DP	CS AV DO	· T	PUMP I	MTR	DIEE	T uu	P / IN ²	EC	2		SLOV		1 100 spr
NO.	- 1	WANUFAC	JIUREK	LINER	LENGTH	GAL / ST	3FM	G,	, ,	AV DF	AVDO	- 1	PRESS.	PRE		i	7 114				oo spiii	oo spi	1 100 spi
_ 1	\perp	Natio		6.25	8.5	3.234	120	+	- 			1							_	1			<u> </u>
2	+	Natio	onal	6.25	8.5	3.234	120 240	+	38 76	68	73	+	1150	2/	30	-			\dashv	2			ļ
Bot	n I			RILL S	PING	6.468	240	1 "	0	00	/3		1150		DLOGIC	<u> </u>			4		GENER	AT IN	-0
вот	томн	OLE ASS		LENGT		O.D.	1.0	D.	FOI	RMATIO	N	N	MD	- OLC	TVD		LITHOLO	OGY	\dashv		+	INFO	
3it					1.50		<u> </u>												-1	Rig No			Unit 11
Moto					0.00															Cell No			645-667 T
	" mor	abilizer nels			3.00 2.00				BOTT	MS UP	TIME	BC	GAS	GA	S DATA	246	TRIP G		┈╟		OP Tes		+-
_	nock				0.00				ВОТТС	ANIO OF	11.00	- 50	GAG		001414	370	TRIFE		┈		afety M		1
3 - 6	5/8 s	spiral v	vt.	180	0.00				GA	S UNIT	s	FF	ROM	S	HOWS TO		ROP (FT	/HR)	\exists	Last B	OP Drill		
9 - 5	" spir	ral wt.		276	6.00						_										perate F		+
Tot	al Bh	۱۷۰		56	7.50				<u> </u>		+		\rightarrow								perate l		
	NG WT		IA WT.	PUW	2000	SO WT.	ROT. T	ORQUE	GRD.	ELEVA1	TION	GL 7	то кв		KB ELEV	ATION	INTERMEDIA	ATE CS			CASING		T CASING
	65		65	65		65	l .		!	5,740			17		5,75	7	<u> </u>					L	
MD	, ,	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/W	4 Di	LS I	TOOL	MD.	SU	RVEYS		AUTH	1	TVD	SECT	IION I	N+ / S-	E+ / W-	DLS	TOOL
16	_		292.60		0.11	0.11	-0.26	_		MWD	4		2.80		5.40	 	108				-6.45	+	+
310	6	2.00	248.70	316	2.60	-0.80	-2.90	0 0.	80	MWD	548		3.90	233	3.60		48	14.	.00	-6.80	-12.88	0.74	MWD
			HRS		OURS - MI	DANGUET TO	Lauphico	· · ·			DA	ILY	ACTIV	/ITY									
0:0	_	то 4:00	4.00		ash & F												٠.						
4:0	$\overline{}$	4:30	0.50	Dri	ill 608'	to 615'											Ω	$\overline{\Omega}$	7 3 100	Inc	1171	21	
4:3		5:00	0.50		rc. 100-		sity sw	еер															<u> </u>
5:0		5:30	0.50 3.00	-	OOH to		300' +	0.430	•						· · · · · ·								
5:3 8:3	_	9:00	0.50	RII		vediii i/	300 ti	U 43U															
9:0		10:00	1.00		ash & F	Ream 5	50' to	615'										• • • • • • • • • • • • • • • • • • • •					
10:0		12:30	2.50		rc. & cc																		
12:	_	14:00	1.50		OH LE																		
14:0	_	14:30 20:00	0.50 5.50		J csng. in 14 jts		65# 1	6" 6"	rface	Ceno	1												
20:0		21:00	1.00	+	rc. & cc					Sil	<u>. </u>												
21:0	_	23:00	2.00		J and c					@ 23	3:00												
23:0	-	0:00	1.00	W	ос																		
0:0	_								-	•	0.00		0/015	10.5			•						
0:0	-			+	xed & p																		
U.U	"				cuiale	a cerile	10 8	undC	u, 20	JUI. I	o pit,	CEI	nent St	layeu	w sur	iac e .							
	- 1																						

		En	ginee	ring	& Sup	ervis	ion		E	XAC	ΓEn	gir	ieer	ing, Inc	•			(9	18) 59	99-9400)	
Operat	or:	Wolve	rine G	&O Co	of Utah	, LLC			ĎΑΙ	LY D	RIL	.LI	NG	REPOI	RT		24 hr	s - m	idnigl	ht to mi		
DATE 12/1	1/04	WELL		ine F	ederal	17-3	co	NTRACT		Rig #11	1		1	UNTY, STATE EVIER, UT	SPUD DATE	43-04	арі# 41-3	0036		SUPERVI	sor irren Na	avlor
DAYS F/S	PUD		SENT OF	PERATIO	ONS @ MIC	DNIGHT			TOTAL D			ROGRE		DRILLI	ING TIME	ROP #DIV/0		FORM		AU	н. <mark>depth</mark> 6550'/	
				CONO	IIGOTHITS	TIOIC				000			DATA			#51070		3	unace		0000 7	7 100
wr	\dashv	VIS.	7	WL		2 Z	РН 9.0	s	AND	SOLIDS	%	PV	ΥP	GELS	540	DATE/TIME	CHL	ORIDE:	s c	CALCIUM	MBT S	ALT PPM
8.8		50		12.0			9.0					BIT	DATA		340	12/11/22:00						
BIT SIZ	ZE	MFG.	TYF	Æ	CODE	SER	AL NO.			1/32nd") TFA	T	IN	OUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTR	WOB	T B	ONDITION
1 17.	500	STC	GSS	H=2		MJ	3820	3 x	24 1)	c 18		140	608	3 468	13.50	34.7		Υ	200	25	1 1	I
\vdash	+	_				 		┢╌	+	-	+		<u> </u>		<u> </u>	#DIV/0		\vdash		<u> </u>	++	ļ
	1															#DIV/0	!					
DUBAR	1441	UKACTU I	ER I	INEO	STROVE	GAL /	d	DM I		DRAULI			IMB T	MTP DIEE	Т	P/IN²	EC	, n			V PUMP	100 spm
PUMP NO.		UFACTUF	_	INER	STROKE LENGTH	ļ	4	SPM	GPM	AV DP	AV DO		UMP RESS.	MTR DIFF PRESS.				_		оо эрп	oo apin	100 spin
2	_	lationa lationa		3.25 3.25	8.5 8.5	3.23	_	20	388 388			+	-+		<u> </u>		-	\dashv	1 2	├	 	<u> </u>
Both		allona		J.25	0.0	6.4	_	240	776	68	73	1	150	300						·		L
					RING				Ţ	FORMATIO		145		GEOLOGI		LITHOLO	007	\dashv			RAL INF	0
Bit	MHOLE	ASSEMB	+	LENGT	1.50	O.D.	1	I.D.		FORMATIO	-N	MD				LITHOL	061	╛	Rig No		3 INFO	Unit 111
Motor					0.00								_					—(⊢	Cell N			545-6671
14 3/4 s 2 - 8" m			+		3.00 2.00		_			TOMS UP	TIME	BG G	<u> </u>	GAS DATA	GAS	TRIP G	245			BOP Tes		
8" shoc					0.00	-				1101110 01					<u> </u>		<i></i>			afety M		
6 - 6 5/					0.00		_		- =	GAS UNITS	s	FRO	M	SHOWS		ROP (FT	T/HR)	-		OP Dril	l Pipe Rai	
9 - 5" s _l	pirai	Wt.	-	2/6	5.00		\dashv		╢		\dashv							-		•	Blind Ra	
Total I		BHA W		567	7.50	SO WT.	RC	T. TOR	DUE GE	RD. ELEVAT	ION	GL TO	KB	KB ELEV	ATION	INTERMEDIA	ATF CS			Operate CASING	Annular	CASING
65		65		65		65				5,740		17	-+	5,75								
		1.70	итн		SECTION	N+/	. I -	+ / W-	DLS	TOOL	MD		VEYS	AZIMUTH	T	TVD	SEC	TION	N+ / S-	E+ / W-	DLS	TOOL
м <u>р</u> 162	0.2	0 292	2.60	162	0.11	0.1	1 -	0.26	0.10	MWD	408		.80	246.40		408	6.2	24	-2.29	-6.45	0.88	MWD
316	2.0	0 24	3.70	316	2.60	-0.	30 -	2.90	0.80	MWD			.90	233.60	<u> </u>	548	14.	.00	-6.80	-12.88	0.74	MWD
FROM	тс	Н	RS	24 H	OURS - MI	DNIGHT	TO MID	NIGHT			DA	ILY A	ACTIV	ITY			_	-				
0:00	2:0		00		motor					4i a.						4.			 _			
2:00 3:00	3:0 6:3		00 50		J csng															January 1	MAI	
6:30	15:	00 8	50								308' w	/ash	& try	to get thru l	edges.				- 1 ()	1	13 Hz.	
15:00 18:00	_		.00		Circui					sng. e, LD 4	its											
21:30	_	_	.50									lud &	bring	vis. Up to	50+							
0:00		\perp	-																			
0:00		+-					_			_												
0:00		\bot																				
0:00	•	-																				
0:00	_	\pm	_									_										
0:00			\Box																			
0:00	\vdash	+	\dashv													,		***			-	
		1	\perp													···						
Daily 1	Total	24	.00																			

	-		Engir	eering	& Sup	ervisi	on		E	XAC.	T En	gin	eeri	ng, Inc	•			(918	3) 59	9-9400)	
Оре	erato	or: \		G&O C								_		REPOI		<u> </u>	24 hrs	•	<u> </u>	nt to mi		
DATE		10.4	WELL			4- 0	CONT	TRACTO		D:- #4				NTY, STATE	SPUD DATE	40.0	API#			SUPERVIS		
	2/10 F/ SP			Verine F				T	OTAL D	Rig #1′ ₽TH		OGRES		vier, UT	10-Dec	43-0 ROP	41-30	036 ORMAT	ION		rren Na H. DEPTH	
	1		PC	OH to	run sur	face c	sng.			608	L	46	68	13	3.50	34.7		sur	face		3550' /	7100'
	14/7		\#C	l WL	1 /	- I	PH	- CA	ND	SOLIDS		UD I PV	DATA YP	GELS	DEPTH	DATE/TIME	CHLO	DIDEC	Т ^	ALCIUM	мвт] з	SALT PPM
	<u>wт</u> 8.7	_	VIS. 32	nc			9.0	- OF	IND	SOLIDA	*	F V	115	GELS	608	DATESTIME	CHLO	RIDES	╁	ALCIUM	MBI	ALIFFM
				I								3IT D	DATA	•	<u> </u>	·						
BIT NO.	SIZE	≣ M	FG.	TYPE	IADC	SERIAI	L NO.			1/32nd") TFA		IN	OUT	FOOTAGE	HOURS	ROP	М		PM +MTR	WOB	DULL C	ONDITION
\rightarrow	17.5	00 S	тс б	SSH=2		MJ3	820	3 x 2	$\overline{}$	c 18		140	608	468	13.50	34.7		-	00	25	1 1	ī
																#DIV/0)!	\perp				
_		-				1	_		+	+				-	-	#DIV/0		+			-	ļ
i		<u> </u>			<u></u>	<u> </u>							L	1	<u> </u>	#DIV/0)!	<u> </u>			<u> </u>	<u> </u>
PUN	MP I	MANUF	ACTURER	LINER	STROKE	GAL / ST	K SPI	м	GPM	AV DP	AVDC	PU	JMP	MTR DIFF	НН	P / IN ²	ECD	+			/ PUMF 80 spm	100 spm
NC					LENGTH		1					PRI	ESS.	PRESS.	ļ			4	厂			<u> </u>
1			ional	6.25	8.5	3.234		-	388	68	73	11	150	300			-	+	1			
Bo	\rightarrow	Na	ional	6.25	8.5	3.234 6.468	_	_	388 776	64		+	-				ļ	╢	2		l	<u> </u>
БО				RILL S	TRING	7 0.400	, 27	,	7.0		L	1		GEOLOGI	C			 		GENER	AL INF	<u> </u>
ВО	TTOM	HOLE AS	SEMBLY	LENG		O.D.	Ţ	I.D.		FORMATIC	N	MD		TVE		LITHOL	.OGY				INFO	
Bit					1.50		-											-1	ig No			Unit 111
Mot		tabilize		1	0.00 8.00		-		╂		+		\dashv					┪	ell No	OP Tes		645-6671 T
		onels	31	 	2.00		+		BO	TOMS UP	TIME	BG GA	AS I	GAS DATA	GAS	TRIP	GAS	┪		OP Tes		+
_	hock			10	0.00													Lá	ast S	afety M	eeting	
6 - 6	5/8	spiral	wt.	18	0.00		_			GAS UNIT	s	FRO	м	SHOWS TO		ROP (F	T/HR)	<u> </u>	ast B	OP Drill		
9 - 5	5" sp	iral wt		27	6.00		_				-					-		⊣		perate F		1
To	tal B	шл		EG	7.50				-									┰		perate E perate		_
	ING W		BHA WT.	PUW		SO WT.	ROT.	TORQ	UE GI	RD. ELEVA	TION	GL TO	КВ	KB ELEV	ATION	INTERMED	ATE CSG			CASING		CASING
	65		65	65		65				5,740		17		5,75	57	<u> </u>						
	, T	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/	34/	DLS	TOOL	MD	_	VEYS	AZIMUTH		TVD	SECTION	ON I AL	+/S-	E+ / W-	DLS	TOOL
1€	32		292.60		0.11	-		_	0.10	MWD	1	_	.80	246.40	+	108	6.24		2.29		0.88	
31	16		248.70		2.60	-0.80	-2.	90	0.80	MWD	548	3.	.90	233.60		548	14.0	0 -6	6.80	-12.88	0.74	MWD
											DA	LY A	CTIVI	ΤΥ								
0:0	$\overline{}$	3:00	3.00		J direct				2 RI	НА												
3:0	\rightarrow	6:00	3.00		ill ceme						7-1/2"	hole	e @ 00	5:00 12/10/	/04							
6:0	_	16:30	_		ill & su		140' to	455	j'							0.0	<u> </u>	~ "\		הידי	1	
_		17:00			g servic		4551.	- 00	01							-			7 44		i	
	\rightarrow	20:00	_		ill & su rc. And					vie Sw	eene o	rour	nd .									
	_	22:00	+	+	iper trip						ссра а	, our										
-	_	23:00	+		rc. And						eeps a	roun	nd									
	:00	0:00	1.00		OOH to																	
	00		1	<u> </u>																		
_	00 00		-	 																		, <u>-</u>
	00		 	 													•					
\vdash	00						Held	pres	pud r	neeting	on 12	/9/04	4. On l	ocation.								
0:	00													n Naylor, E								
_	00		-	Ur	nit 111	Tool p	usher	s - G	reg S	jaastad	d, Anch	or D	rilling	Fluids - Da	vid Alan,	Weatherfo	rd Dire	ction	al S	ervices		
0:	00			1																		
Da	ily To	otal	24.00	1										·								
Ë	,																		-			

		Eng	jinee	ring	& Sup	pervisio	on		١	EXA	CI	ΓEn	gir	nee	rir	ıg, Inc				(:	918)	59	9-940	0	
Opera	itor:	Wolver	ine G	&O Co	of Utal	h, LLC				ILY	' D	RIL	LI	_		REPOR			_		midr	nigh		idnight	
DATE 12/0 DAYS F/	09/04				edera		CONT		Un	it Rig			OGRE			IY, STATE	SPUD DATE	43-0 ROP	API# 141-3	8003	-			arren N	
DATS F/		FRES	ENTOF		gging				TOTAL	140			OGRE			DRILLII		#DIV/0)!	FOR	MATIC	JN	- 1	тн. dept 6550' <i>i</i>	
WT		VIS.		WL		ск і	PH	s	SAND	so	OLIDS		DD PV	DAT.	_	GELS	DEPTH	DATE/TIME	СНІ	LORID	ES	C/	ALCIUM	мвт	SALT PPM
-																									
BIT S	IZE	MFG.	TYP	PE]	IADC	SERIAL	NO.			S (1/32nd	d")		IN IN	OATA OI		FOOTAGE	HOURS	ROP		MTR	RP RT+M		WOB		CONDITION
,,,,					OODL				I	UI II A								#DIV/0)!		KIT	MIR		T E	G
	\dashv	-				┼			\dashv	-				-			<u></u>	#DIV/0		Ш		\dashv		++	
						<u> </u>			士									#DIV/0							
-									H,	YDRA	ULIC	CS											SLO	V PUM	•
PUMP NO.	MANU	FACTURE	R L	INER	STROKE	GAL / STI	(SP	М	GPN	AV	DP	AV DC		UMP RESS.		MTR DIFF PRESS.	НН	2 / IN ²	EC	O.D.			60 spm	80 spr	100 spm
1 2	<u> </u>		+			 	├-	\dashv	0	-			╁						-		1 2	-			
Both						0	0		0													·]		<u> </u>	
					RING										(EOLOGIC	<u> </u>							RAL IN	-0
BOTTO	MHOLE A	SSEMBL	Y	LENGT	Н	O.D.	 	I.D.	\dashv	FORM	IATIO	N	ME	Ľ		TVD		LITHOL	OGY	\dashv	D:-	. 11-		3 INFO	
			+						╬			\top										j No II Nc			
							_									GAS DATA					_		OP Te		
			-				-		╌╟	ОТТОМ	SUPT	TIME	BG G	AS		CONN	SAS	TRIP	SAS		_		OP Te		
			_		+		ļ		╁	GAS	UNITS	L_	FRO			SHOWS		I ROP (F	T/HR)				afety M OP Dri	<u>_</u>	
																					Las	st Op	perate	Pipe Ra	n
			- -		- 1000	uislana ana			1												-			Blind R	+ -
Total	BHA:	BHA WT		PU WT	.00	SO WT.	ROT.	TORG	QUE	GRD. EL	EVAT	ION	GL TO	KB		KB ELEVA	TION	INTERMEDI	ATE C	SG			perate ASING	Annula NEX	T CASING
							<u> </u>					Ц,	NI DO	VEY:	_						20" (@ 1	20' BG	լ 16"	@ 600'
MD	INCL.	AZIMU	лн	TVD	SECTION	N+/S-	E+ /	W-	DLS	тс	OOL	MD		VEY:		AZIMUTH	Ţ	VD	SEC	TION	N+	/ S-	E+ / W-	DLS	TOOL
	-	-				ļ		_			WD		+						_					-	MWD
		<u> </u>					l			_ M\	WD	DAI	LY A	CTI	/IT'				<u> </u>					<u> </u>	MWD
FROM	ТО	HR	S	24 HC	DURS - M	IDNIGHT TO	MIDNI	GHT																	
0:00	 	+	+	We	ii Nam	ne: Wolv	/erine	Fe	dera	1 17-3	₹														
0:00		_										NL & :	2233	3' FV	VL c	of Sec 17,	T23S - R	01W , SLE	8&M	Svy	, Se	vier	r Co, L	JΤ	
0:00																		@ ~ 5800'							
0:00	+	+-	+																				 -		
0:00	18:0	0 18.0	00	12/	8/04 (Continue	e to ri	ia ur	n Wr	rk on	pun	nns 22	OO	12/8	3/04	to 18:00	12/9/04 =	20 hrs							
18:00				Sta	rt Rig	Operati	ional	test	t @ 1	18:00	hrs.	12/9.	Rar	bot	h pı	ımps @ 1	20 spm p	umping @							
	23:0		_					ids	cont	rol eq	uipn	nent @) sa	me r	ate.	Shakers,	Drilling n	ipple, Flow	/line,	De	san	der,	Desil	er & C	enterfuge
23:00	0:00	1.0	0	Sta	rt pick	ing up I	ВНА																		
0:00	+	+-	\dashv					· · · · · ·		_				_					. 1 3 1	. 1 ("		- T- 113	· 1 - 2 - 2 - 2 - 2	7	:
0:00		\perp		Not	te: BL	M & UE	ogi	M no	otifie	d of p	end	ing sp	ud					<u>-</u> .) . .				:		
0:00		\Box																ı.							
0:00		-																							
0:00	+	+	+																						
3.00		_																							
Daily	Total	24.	00																						

	•		Engi	neering	& Sup	ervisio	n		Е	XAC	TE	Eng	ine	eri	ng, Inc.				(918) 5	99-940	0		
Оре	rato	r: V	Volverii	ne G&O Co	of Utah	ı, LLC		T	ÌΑΙ	LYI	DR	ILL	_IN	G I	REPOR	RT		24 hı	rs - 1	midnig	ght to n	idnigh	ıt	
	2/08/	04		lverine F			CONT			Rig #1	111				NTY, STATE VIER, UT	SPUD DATE	43-0 ROP	API# 141-3	3003			VISOR arren JTH. DEP		lor
DAYS	F/ SPU	טו	PRESE	NT OPERATION R	igging			"	DIALD	EPIN		PRO	GRESS		DRILLII	NG TIME	#DIV/0)!	FOR	MATION	^'	6550'		100'
												ML	JD DA	ΙΤΑ							•			
	ΝT		VIS.	WL		CK P	Н	SA	ND	SOLIE	os %	P	v	ΥP	GELS	DEPTH	DATE/TIME	CHI	LORID	ES	CALCIUM	MBT	SAL	T PPM
										<u> </u>		В	T DA	TA			<u> </u>	L						
BIT	SIZE	М	≓G.	TYPE	IADC	SERIAL I	NO.			(1/32nd")		IN		OUT	FOOTAGE	HOURS	ROP		MTR	RPM	WOB			DITION
NO.		+	-		CODE		_		Tor	TFA			+				#DIV/0)!	\vdash	RT+MT	R	T	В	G
																	#DIV/0				1	11	†	
\Box															ļ		#DIV/0)!				\bot		
			<u>L</u>									<u> </u>				<u> </u>	#DIV/0)!	لــــــــــــــــــــــــــــــــــــــ		<u> </u>		丄	
PUN	ь Г	MANHIEA	ACTURER	LINER	STROKE	GAL / STK	SP	W 1	HYI GPM	DRAUL AV DP		/DC	PUMF	• T	MTR DIFF	Г	P / IN ²	E	CD			W PUN n 80 sp		00 spm
NC	- 1		TOTOTAL	CIIVEN	LENGTH	GAL/ GIN				J 777 J			PRESS	- 1	PRESS.						ос ор.	55 6,	<u> </u>	оо орин
1				-		<u> </u>	<u> </u>		0	<u> </u>	╀			+				<u> </u>		1	-	↓	4	
2	\dashv					0	0	+	0	-	+-			-		 		-		2				
Во	ın			DRILL S	FRING				Ť			1		_	GEOLOGIC	<u> </u>		<u> </u>		L	GENE	RAL II	JEO	
ВО	ТОМН	IOLE AS	SEMBLY	LENG1		O.D.		I.D.	士	FORMATI	ION		MD		TVD		LITHOL	.OGY				IG INFO	110	
									_					4						Rig N				
				_			_		-			┼		┼						Cell		-4	Т	
				ļ	_		-		-	TTOMS U	D TIME		G GAS		GAS DATA	246	TRIP (246			BOP Te			-
					- -				╫	TIONS	r IIIVE	1 -	G GAS	\top	CONN	343	IRIF	340		-	Safety I		, †	\neg
									Œ	GAS UNI	TS		FROM		SHOWS TO		ROP (F	T/HR)		$\overline{}$	BOP Dr			
					_				╨					\perp							Operate			
	al Di	14.		 	200							-		+		•				\vdash	Operate		\neg	
	al Bh		SHA WT.	PU W	D.00 T.	SO WT.	ROT.	TORQ	JE GI	RD. ELEV	ATION	GI	то кв	\pm	KB ELEVA	ATION	INTERMEDI	ATE C	SG		Operate r casing			ASING
									<u>l</u>											l				
Mi	· I	INCL.	AZIMUT	н тур	SECTION	N+/S-	E+/	w. I	DLS	TOOL		SI MD	JRVE INCL	_	AZIMUTH	T .	TVD	SEC	TION	N+/S	- E+/W	- DL	<u>. </u>	TOOL
191		IIIOL.	ALIMO	100	CEOTIO	1,1,7,0			DEG	MWE	⊣ !—		11100		10			5.5						MWD
										MWE														MWD
FRO	I	то	HRS	741	OUDS M	DNIGHT TO	MIDNI	CUT				DAIL	Y AC	TIVIT	ſΥ									
12:		10	HRS	24 1	OOKS - WI	DNIGHT 10	WIIDIN	GIII						-										-
0:0	_					e: Wolv																,		
0:0	-		<u> </u>	We	ell Loca	ation: SE	E/4 -	NW/	4; 16	80 FN	L & 2	2233	' FW	L of S	Sec 17, T2	3S - R01\	W, SLB&N	1 Sv	y, Se	evier (Co, UT			
0:0	$\overline{}$		1	_		-																		
0:0			ļ	+																				
0:0	_		ļ	12	/8/04 C	ontinue	to ri	ig up	, @ 1	10:pm	The	push	er inf	form	ed me of a	problem	with one of	the	pun	np mo	tors.			
0:0	00														n outcome,									
0:0	-			ļ <u> </u>																				
0:0 0:0	$\overline{}$		-																					
0:0			+	+-																				
0:0	_						_														1 (See 1		;	
0:0	_																			: '	27.4			
0:0	_		├-	-																				
0: 0:				+																				\dashv
	*+		 	+			-																	
Da	ly To	tal	0.00																					

	•		Engin	eering	& Sup	ervisio	on —		E	KAC'	T Er	ngi	nee	rir	ıg, İnc.				(9	18)	599	-9400		
Оре	rato	or:	Wolverine	G&O C	o of Utal	ı, LLC	 ,	D							REPOR			24 hr			-	to mic		
DATE		7/04	WELL			47.0	CONTRA			D: - 44					TY, STATE	SPUD DATE		AP#	-	_		UPERVIS	OR	_
DAYS		7/04 PUD		verine F			<u> </u>	TOT	INIT I	Rig #11		ROGR		Sev	ier, UT	NG TIME	43-0 ROP	41-3	0036		N		ren Na	
			<u>.</u>	R	igging	up	_										#DIV/0	!				e	550' /	7100'
	ΝT		VIS.	WL		ск	рн Т	SAN	· I	SOLIDS		MUD PV	DAT.		GELS	DEPTH	DATE/TIME		OBJE		241	00.04 T		
		_	*10.	- "				O/AI4E		GOLIDO	-		+-		GELS	DEFIN	DATE/TIME	CHL	ORIDE	*	CAL	CIUM	MBT S	ALT PPM
										-		ВІТ	DAT/	1										
BIT NO.	SIZI	E N	IFG.	TYPE	IADC	SERIAL	. NO.	j	ETS (1 or T	/32nd") 'FA		IN	ÖÜ	JT	FOOTAGE	HOURS	ROP		MTR	RPN RT+M		WOB	DULL C	ONDITION
-		_			JODE				<u> </u>				†				#DIV/0	!	-	K I + M	'		<u> </u>	- 4
																	#DIV/0	!						
\perp																	#DIV/0	!						
					<u> </u>								1_				#DIV/0	!	Ш.			i		
PUN	ьΤ	MANUE	ACTURER	LINER	STROKE	GAL / STI	K SPM	_	HYD PM	RAULI AV DP		о I г			MATE DIEE		2 / 1512			_			PUMP	1400
NO.	- 1	MANUF	ACTURER	LINER	LENGTH	GAL / STI	SPM		M	AVDP	AV D		UMP RESS.		MTR DIFF PRESS.	нн	P / IN²	EC	D	┢	╬	ou spm	80 spm	100 spm
1						<u> </u>			0											1	I			
2	_					<u> </u>	<u> </u>	+-	0		ļ	\bot							_	2	丄			
Bot	h					0		1. '	0		l	<u> </u>												
BO	TOM	HOLE AS	D SSEMBLY	RILL ST		O.D.	1.0		É	ORMATIO	N I	M)	G	EOLOGIC	<u> </u>	LITHOL	OGY	\dashv		G		AL INF	0
											T								┪	Rig	No			
																				Cell	Nc			
							—		_						GAS DATA				_	Last	ВО	P Test		
					-		-		вот	TOMS UP	TIME	BG C	AS		CONN G	AS	TRIP	AS				P Test		
					_		 								SHOWS			-	− 1⊦			ety Me	eting	
							 		∐	GAS UNIT	s	FRO	M		ТО		ROP (F1	/HR)				P Drill erate P	ipe Ran	
														_				_	—⊪				lind Rai	
		HA:			0.00																		nnular	
SIRI	NG W	VI.	BHA WT.	PU W	<u>' </u>	SO WT.	ROT. TO	RQUE	GRI	D. ELEVAT	ION	GL TO	кв		KB ELEVA	TION	INTERMEDIA	ATE CS	iG	LAS	ST CAS	SING	NEXT	CASING
				!					u 			SUR	VEY	3			<u> </u>		! _					
MC	1	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+ / W-	D	LS	TOOL	MD		NCL.		AZIMUTH	Т	VD	SECT	ION	N+ / 5	S- E	E+ / W-	DLS	TOOL
	4	_				ļ	ļ	+		MWD		\bot									4			MWD
			<u> </u>			<u>l</u>	<u> </u>	L	!	MWD	<u> </u>								L	_				MWD
FRC	м	TO	HRS	24 H	OURS - MI	DNIGHT TO	MIDNIGH	T			DA	ILY A	ACTIV	VITY	<u></u>			_						
12:0	00																							
0:0	_		ļ			e: Wolv														_				
0:0	-			We	II Loca	tion: SI	E/4 - N	W/4;	168	0 FNL	& 22	33' F	WL c	of S	ec 17, T23	3S - R01V	V , SLB&M	Svy	, Sev	vier	Co,	UT		
0:0	-								•						.	-								
0:0	$\overline{}$																							
0:0	$\overline{}$																							
0:0	0			12/	07/04	welded	on 20	' dril	ling	nipple,	conti	nuec	rig u	ıp, f	illing pits v	with wtr th	is am, exp	ect t	o spi	ud tl	his p	om		
0:0	\rightarrow															_								
0:0	_	_	ļ													 								
0:0	_		-																	· 1		<u> </u>	3 1	
0:0	_			<u> </u>					-					_						1	<u> </u>		-21-1	
0:0	_																				<i>.</i>	!		
0:0	οŢ																							
0:0	_		ļ	ļ																				
0:0	<u>• </u>	_		ļ								_				······································								
Dail	 v To	ntal	0.00																					

	•		Engi	neering	& Sup	pervisio	n .	-	E	XAC	T	Enç	gin	eer	ing	, Inc				(5	918)	599-	9400		
Оре	erato	or:		e G&O C	o of Utal	n, LLC				ILY	DF	RILI	LIN	NG	RE	POF	रा		24 hr	s - r	nidni	ght t	to mic	inight	
DATE 1	2/06	/04	WELL	lverine f	Federal	17-3	CONT	RACT		: Rig #1	111				UNTY, S Evier,		SPUD DATE	43-0	API#		6	SU	PERVIS Dai	ior rren Na	ıvlor
DAYS	F/ SP	UD	PRESEN	IT OPERATI	ions e m Rigging			T	TOTAL C			PRO	GRES				NG TIME	ROP #DIV/0			MATION	1	AUTI	H. DEPTH	
H		_				<u> </u>						M	JD E	DATA				1101070						7000 7	7 100
	WT	\top	VIS.	WL.		CK I	? Н	S	AND	SOLIE	DS %	Р	٧	YP	+-	GELS	DEPTH	DATE/TIME	CHL	.ORID	ES	CALC	CIUM	MBT S	ALT PPM
_				<u> </u>	I	<u> </u>					_	В	IT D	ATA							<u> </u>				
BIT NO.	SIZE	<u> </u>	AFG.	TYPE	IADC CODE	SERIAL	NO.			(1/32nd") r TFA		li li	N	OUT	FC	OOTAGE	HOURS	ROP		MTR	RPM		WOB	DULL C	ONDITION
							\Box											#DIV/0							
Н		+					\dashv		+			-			+			#DIV/0 #DIV/0	$\overline{}$	\dashv		+			
																		#DIV/0							
				,				_		DRAUL	_													PUMP	
PUN NC		MANUF	ACTURER	LINER	STROKE LENGTH	GAL / STK	SPI		GPM	AV DP	<u>`</u>	AV DC	PU PRE	- 1		DIFF ESS.	HHI	2 / IN ²	EC	:D		60) spm	80 spm	100 spm
1							<u> </u>	+	0	<u> </u>	\bot										1_				
Bo	-				 	0	 	+	0	┼	+								 	_	2				
				RILLS	TRING					·					GEC	DLOGIC	;		-	一		GE	NER	AL INF	•
ВО	TTOM	HOLE A	SSEMBLY	LENG	TH	O.D.		I.D.	-	FORMATI	ION	+	MD			TVD		LITHOL	OĞŸ	\dashv	Rig f	No.	RIG	INFO	
																					Cell				
				<u> </u>			<u> </u>		_						GA	S DATA				_			Test		-
							\vdash		BC	TTOMS U	PTIM	E B	3G GA	.s		CONN	SAS	TRIPO	SAS	\exists			Test		
									F	GAS UNI	TS		FRON	<u> </u>	s	HOWS TO		ROP (F	r/HR)	\exists			Drill		
							├		╬			+						<u> </u>						ipe Ran	
	tal B				0.00							+-								\dashv				lind Rai Annular	
STR	ING W	Τ.	BHA WT.	PUW	т.	SO WT.	ROT.	TORC	E G	RD. ELEVA	ATION	1 G	LTOI	КВ		KB ELEVA	TION	INTERMEDI	ATE CS	G	LÁS	T CASI	ING	NEXT	CASING
							<u></u>	_				S	URV	/EYS											
M	,	INCL,	AZIMUTH	TVD	SECTION	N+/S-	E+/	W-	DLS	MWE	\neg	MD	INC	CL.	AZIN	MUTH	T	VD	SECT	ION	N+ / S	}- E-	+ / W-	DLS	TOOL MWD
	\perp							\perp		MWE	⊣⊢					-						+			MWD
				1								DAIL	ΥA	CTIVI	ΤY										
FR0		TO	HRS	24 H	IOURS - MI	DNIGHT TO	MIUNI	GHI																	
0:0	\neg					e: Wolv																			
0:0			-	We	ell Loca	tion: SI	<u> </u>	NW.	/4; 16	80 FN	L &	2233	' FV	VL of	Sec	17, T2	3S - R01V	V, SLB&M	Svy	, Se	vier	Co, l	UT		
0:0	-							_																	
0:0	_																								
0:0	-	_	1	12	/06/04	Raised	derr	ick.	rig &	camp	runi	nina.	mar	n cam	ips o	n locati	ion, still rig	agina un							
0:0	-								3 5						,,,,,,,			, <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>							
0:0	-		-	<u> </u>																					
0:0	$\overline{}$																				• (
0:0	0																						• • •		
0:0	_															_									
0:0	\rightarrow		1						-											-					
0:0	-		Ī																						
Dai	ly To		0.00	┼																					
اعظ	.,	,,,,,,	1 0.00	1																					

	•		Engir	neering	& Sup	ervisio	n		E	XAC	T Er	ngi	nee	rir	ıg, Inc.				(918)	599	9-9400		
Оре	rator	r: W	olverin	6&O C	of Utah	, LLC		<u>שר</u>	Al	LY [DRII	LLI	NG	F	REPOF	RT	- <u>-</u> -	24 hı	rs - 1	midn	ight	to mi	dnight	
DATE) (OE (ľ	WELL NAV-1			17.2	CONT	RACTO		D: #1	4.4		l l		TY, STATE	SPUD DATE	43.0	API#				SUPERVI		
	2/05/ F/ SPU			Verine F					TAL DE	Rig #1		ROGR		Sev	ier, UT DRILLIF	NG TIME	43-0 ROP			OD RMATIO	N L		rren N H. DEPTH	
				R	igging	up							_				#DIV/0)! 				ئےلے	5550' /	7100'
	ΛΤ	7	VIS.	T WL		ж Г ғ	ЭΗ	SAN	D	SOLID		MUD PV	DAT.	Α Έ	GELS	DEPTH	DATE/TIME	СНІ	LORIC	ofs I	CA	LCIUM	мвт	SALT PPM
													DATA											
BIT NO.	SIZE	MF	G	TYPE	IADC. CODE	SERIAL	NO.		JETS (1 or 1	1/32nd") TFA		IN	01	UT	FOOTAGE	HOURS	ROP		MTR	RT+M		WOB _	T B	G
4		ļ	_		ļ	<u> </u>			╄-				_			<u></u>	#DIV/0		<u> </u>	ļ	_			1
-		+	-			-	\dashv		┾				-			<u> </u>	#DIV/0		┝	_	+		\vdash	
\dashv			+						╁╌		\rightarrow		+				#DIV/0				\dashv			
									HYC	RAUL	ICS							==				SLOV	/ PUMI	,
PUN		MANUFA	CTURER	LINER	STROKE	GAL / STR	SP	м	SPM	AV DP	AV D		PUMP		MTR DIFF	нн	P/IN ²	E	CD	Π	1	60 spm	80 spn	100 spm
NC 1	+			 	LENGTH		\vdash	+	0	 	_	+	RESS.	┢	PRESS.	<u> </u>		\vdash		1	\dashv			1
2	十			l		<u> </u>	✝		0	<u> </u>	 	╅								2	\dashv			
Во	h					0	C		0															
				RILL S									_	_	GEOLOGIC						(SENEF		0
ВО	томн	OLE ASS	EMBLY	LENGT	" 	O.D.	╂—	I.D.	╫╌	FORMATIO	ON	M	D	┝	TVD		LITHOL	OGY		Rig	Nο	RIG	INFO	***
_		-		<u> </u>					┢											Cell				f
																				Las	t BC	P Tes	t	
				<u> </u>	_				ВОТ	TOMS UF	TIME	BG (GAS	F	GAS DATA CONN C	SAS	TRIP	3AS				OP Tes		
			_	<u> </u>					-					l	SHOWS		L			╙		fety M		1
	-			 	\dashv	_ -	 		┲	GAS UNI	rs	FR	ОМ	\vdash	10		ROP (F	T/HR)		 		OP Drill erate F		
									╫┈													erate E		
	al Bl				0.00																	erate .		
STR	NG WT	. В	IA WT.	PU W	г.	SO WT.	ROT.	TORQU	GR	RD. ELEVA	TION	GL T	о кв	\vdash	KB ELEVA	ATION	INTERMEDI	ATEC	SG	<u>^</u>	SICA	ASING	NEX	CASING
_									"- -			SUF	₹VEY	S			· · · · · · · · · · · · · · · · · · ·			ц				
М	,	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/	W-	DLS	TOOL	MD	\mp	INCL.	F	AZIMUTH	1	rvo.	SEC	TION	N+ /	S-	E+ / W-	DLS	TOOL
	-			-		<u> </u>	1	+		MWD	╂	+		-		 .		├─		 	\dashv		-	MWD
				<u> </u>	<u> </u>		L			INVE		II V	ACTI	VIT	V			<u> </u>		L			L	
FRO	М	то	HRS	24 H	OURS - MI	DNIGHT TO	MIDN	GHT																
12:				100	. II Maaa	\A/- L			1	47.0														
0:0	_					e: Wolv					& 22	33' F	-WI (of S	ec 17 T2	3S - R01\	V, SLB&N	1 Sv	v S	evier	Co	LIT		
0:0	_																main office		,, <u>o</u>		-50	,		
0:0	_)wner: \			_															
0:0													_							***				
0:0	_			40	101104	Bogin :	mord	na in	71-	ade								-	·• ·		1 	, , .		
0:0	_					Begin i		ny III	- 7 10	aus											+,-		• • • • •	
0:0	-					Moving		starte	d se	tting s	ub													
0:0	ю			12	/04/04	Moving	j in																	
0:0	-			12	/05/04	<u>Finishe</u>	d mo	ving i	n, riç	set in	, will r	aise	derri	ick t	tomorrow,	expect sp	oud Tuesda	ay 1:	2/7					
0:0	_			+-	<u> </u>	_																		
0:0																						-		
0:0																		_						
0:	00																							
<u> </u>				 																				
Da	ly To	tal	0.00	<u> </u>																		<u></u>		į

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

January 15, 2005

43.041.30036 T. 235, R. IW, S. M

Wolverine Gas and Oil Co. of Utah, LLC Covenant Field Production Office P.O. Box 570031 Sigurd, Utah 84657

Re:

Covenant Field - Lease UTU-73528

SITE SECURITY PLAN

Gentlemen,

Please find enclosed a binder titled <u>SITE SECURITY PLAN for COVENANT FIELD</u>, the contents of which are prepared to assist with the Operator's compliance with the *U.S. Bureau of Land Management's ("BLM") Onshore Oil and Gas Order No.* 3 (copy enclosed) pertaining to the minimum standards for site security by providing a system for production accountability. This Order covers the use of seals, by-passes around meters, self inspection, transporter's documentation, reporting of incidents of unauthorized removal or mishandling of oil and condensate, facility diagrams, recordkeeping and site security plans. It identifies specific acts of non-compliance and establishes time allotments for implementation of corrective action(s). Penalties are provided by law for failure to comply.

This plan shall be maintained at the temporary site of the Wolverine Covenant Field Production Office located 3-1/2 miles south of Sigurd, UT in Sevier County. Any Authorized Officer of the BLM may inspect the subject facility and review this plan at any reasonable time without advance notice. Construction of the subject facility is ongoing, however, it was completed sufficiently for initial use on November 20, 2004. First Oil Sales through this facility occurred on November 24, 2004

For purposes of this plan the "site" shall be considered to include all equipment, piping and valves necessary to accommodate the daily production of oil and or gas from the KMR #17-1 and WF #17-2 wells including the wellhead, flowlines, treater facility and containment area, stock tank and service tank battery and truck sales outlet. A schematic outlining these facilities is shown in the <u>Facility Diagram</u> included in the plan binder. As wells are added or deleted from this facility this Plan will be revised to reflect these changes. Operating personnel in responsible charge of this facility shall be familiar with all portions of this plan and insure adherence to the plan. Any instances of non-compliance should be reported to the Supervisor.

Production volumes, measurements and transport records shall be maintained in accordance with API Recommended Methods and standard industry practices. These records shall be maintained at the facility for the current production month and transmitted (preferably daily but weekly at a minimum) to the Operator's headquarter office where they should be maintained for a period of at least six (6) years. The Operator shall inspect the facility at six (6) month intervals to insure compliance with all of the requirements herein.

By copy of this letter, the Utah State Office of the U.S. Bureau of Land Management is being notified of the existence of this new plan, it's location and the construction of this new facility.

Respectfully,

Steven R. Hash

Xc: Mr. Al McKee, Bureau of Land Management, Utah State Office, 324 S. State St. Suite 401, Salt Lake City, UT 84111 Mr. Dustin Doucet, Utah Division of Oil, Gas & Mining, 1594 West North Temple, Suite 1210, Salt Lake City, UT 84114 Mr. Ed Higuera, Wolverine Gas & Oil Corp, One Riverfront Plaza, 55 Campau, NW, Grand Rapids, MI 49503-2616

Petroleum Engineering Consulting, Personnel & Jobsite Supervision complete well design, construction & management, drilling, completion, production, pipelines, appraisals, due diligence, acquisitions, procedures, temporary personnel and field supervision

Form 3160-5 (April 2004)

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

FORM APPROVED OM B No. 1004-0137 Expires: March 31, 2007 5 Lease Serial No.

SUNDRY NOTICES AND REPORTS ON WELLS

	UTU-73528	
6.	If Indian, Allottee or Tribe Name	

	nis form for proposals to ell. Use Form 3160-3 (A			6. If Indian,	Allottee or I fibe Name
SUBMIT IN TR	IPLICATE- Other instr	uctions on rever	se side.		CA/Agreement, Name and/or No. ine Fed Exploration Unit
2. Name of Operator Wolverine G	Gas Well Other		<u></u>		ne Federal #17-3
3a Address One Riverfront Plaza, 55 Cam		3b. Phone No. (include 616-458-1150	area code)	9. API Wel 43-041-3 10. Field and	
4. Location of Well (Footage, Sec., SHL: 1680' FNL & 2233' FW BHL: 1980' FSL & 660' FWL	L			Sevier C	r Parish, State
12. CHECK AF	PPROPRIATE BOX(ES) TO		E OF NOTICE, RI	SPORT, OR	OTHER DATA
Notice of Intent Subsequent Report Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (Star Reclamation Recomplete Temporarily About the Water Disposal	, 	Water Shut-Off Well Integrity Other Abandon Log Tool with nuclear source
13. Describe Proposed or Complete	ed Operation (clearly state all pertinectionally or recomplete horizontally		•		

Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The tool abandonment operation reported below was granted verbal approval by Al McKee by phone on 1/23/05. After multiple fishing attempts to retrieve a stuck open-hole logging tool (Halliburton) from the subject well the tool was permanently abandoned on 1/24/05 in accordance with standard industry practices; the procedure being also approved by the U.S. Nuclear Regulatory Commission (NRC). The well was drilled (8-1/2" diameter hole) to total depth of 7150' on 1/17/05 with 9-5/8" intermediate casing set and cemented at 5828'. During open hole logging operations the logging tool became stuck at total depth. 4 fishing attempts over a 5 day period resulted in only partial recovery of the tool. 50 ft of tool remained in the well from 7150' to 7100' including a radioactive source of Cesium 137 which remained intact. Halliburton Global Lead Radiation Safety Officer, Dwaine Brown (dwaine.brown@halliburton.com) notified the NRC of the pending abandonment and obtained appropriate authority and methodology. A section of steel drill collar 6-1/2" OD x 5.38' long was welded on the bottom of the 5-1/2" production casing string which was then run to the top of fish @ 7100'. The casing was cemented with 680 sx of 50/50 POZ cement, the last 10 bbls of which contained red dye. Therefore, there is now 54' of red cement plus the steel drill collar covering the fish and preventing its accidental contact over the remaining life of the well.

PLEASE MAINTAIN ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL - thank you

JAN 2 6 2005

			<u> </u>
14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)	1		
Steven R Hash	Title	Consulting Engineer - EXACT E	Engineering Inc
Signature Steven R. Hed	Date	01/24/2005	
THIS SPACE FOR FEDERAL	L OR	STATE OFFICE USE	
Approved by		Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warra certify that the applicant holds legal or equitable title to those rights in the subject lewhich would entitle the applicant to conduct operations thereon.		Office	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any States any false, fictitious or fraudulent statements or representations as to any matter	person within	knowingly and willfully to make to its jurisdiction.	any department or agency of the United

(Instructions on page 2)

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

January 18, 2005

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Wolverine Federal 17-3 well Sec 17 T23S R01W Sevier Co., UT API# 43-041-30036

Dear Mr. Doucet.

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily activity reports for the subject well from December 18, 2004 (spud Dec 10, 2004) through January 18, 2005. Our present status is fishing logging tool at 7150' TD. We respectfully request that the enclosed information remain confidential.

Very Truly Yours,

Consulting Engineer for Wolverine Gas and Oil Company of Utah, LLC

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC: Richard Moritz, Sue Benson

EXACT Engineering, Inc.

well file

CONFIDENTIAL

Petroleum Engineering Consulting, Personnel & Jobsite Supervision complete well design, construction & management, drilling, completion, production, pipelines, appraisals, due diligence, acquisitions, procedures, temporary personnel and field supervision

		Engl	neering	y & Suj	pervisio	on \	 ا	EXAC	T En	gin	eer	ing, Inc				(918) 5	99-940	0		
Oper	ator:	Wolverin	ne G&O C	o of Uta	h, LLC		DA	ILY [DRIL	.LIN		REPO	RT				midnig	ht to m		ht	
	17/05		olverine			CONTRA	Un	it Rig #1			Se	UNTY, STATE Evier, UT	SPUD DATE 10-Dec		API# 041-3	3003			arren		ylor
DAYS F	39	PRESE	NT OPERAT	_		ol _	TOTAL	7,150	Pf	ROGRES	ss	DRILL	ING TIME	#VALU	JE!	ı	Navaj	- 1	лн. de 655(100'
w		VIS.	T w.		ck I	PH	SAND	SOLID		NUD I	DATA YP	GELS	DEPTH	DATE/TIME	Сн	LORIE	oes I	CALCIUM	МВТ	SA	LT PPM
10		41	10.			0.0	0.50	2.8	3	7	6	5/6	7150	1/17/08:30	_	0,0		1050	##		0,000
BIT	SIZE	MFG.	TYPE	IADC	SERIAL	NO.	JET:	S (1/32nd")		BIT D	OUT	FOOTAGE	HOURS	ROP		MTR	RPM	WOB	ΟU	L COI	NDITION
NO.				CODE				or TFA				 		#DIV/0	01	-	RT+MTR	-	T	В	G
														#DIV/0						ightharpoonup	
┝				 	ļ				_			<u> </u>		#DIV/(_	<u> </u>	ļ		4	
<u> </u>				<u> </u>	L		H)	DRAULI	CS				<u> </u>	#DIV/0)! <u> </u>			SLOV	V PU	VIP	
PUMP NO.	MANU	FACTURER	LINER	STROKE	GAL / STR	SPM	GPM	AV DP	AV DC	PUI	- 1	MTR DIFF PRESS.	НН	P / IN ²	EC	.D		60 spm	80 s	om 1	00 spm
1	Na	itional	6	8.5	2.97	123	365				33.	FRESS.					1	400			
2	Na	itional	6	8.5	2.97	0	0								<u> </u>	\dashv	2	400			
Both			RILLS	TRING	5.94	123	365	172	189	150	سلند	150 GEOLOGIO			<u> </u>			GENE	ZALI	VEO	
ВОТТО	OMHOLE A	SSEMBLY	LENG		O.D.	1.D.	#	FORMATIO		MD	T	₹VD		LITHOL	OGY			RIC	INFO		
8 1/2" 6 1/2 r			+	0.00			}-	Navajo	-	6,501	┶	5,98	4			\dashv	Rig No Cell N		01:		nit 111 5-6671
	HWDP			4.00			_				士							OP Tes		T	1/7
Jar			+	2.00			B	OTTOMS UP		BG GAS		GAS DATA CONN G	BAS	TRIP	GAS			OP Te		\bot	2/7
3 5" H	WDP		90	0.00				53 GAS UNITS		to 2		SHOWS		0 ROP (F1	TUB\	╣		afety M		-	1/17 1/16
								GAS UNITS		FROM	士			KOP (P	i <i>i</i> riki)			perate I		lar	1/17
									\bot							_		perate I		_	1/17
Total STRING		BHA WT.	947 PUW	7.00	o wr.	ROT. TOP	QUE G	RD. ELEVAT	ION C	LTOK	В	KB ELEVA	TION	INTERMEDI	ATE CS	G		perate casing			1/7 ASING
160		50	200		130	200		5,736		17		5,753	<u> </u>				58	28	<u>L</u>	TD	
MD	INCL.	AZIMUTH	TVO	SECTION	N+/S-	E+/W-	DLS	TOOL	MD	URV		AZIMUTH	T	/D	SECTI	ION	N+ / S-	E+ / W-	DLS		TOOL
																				[
	<u> </u>	<u> </u>						<u></u> _	DAII	V A C	TIVIT								<u></u>		
FROM	то	HRS			NIGHT TO					.1 AU	,114(1	<u> </u>				_					
0:00 6:00	6:00 7:30	2.50 1.50			k tool, v eting w			thread to	ools.												
7:30	11:00				J to stri		SOLICI														
11:00		 	Stri	p over	ine to l	ogging	~														
18:00	19:00 0:00	5.00						& down		ng 50	k un s	working do	wn 25k								
0:00	0.00	3.00	Late	CII OII U	, loggiii	g tool,		WOIN HON	s, pain	.g 00	ik up	working do	WIII ZOK.								
0:00																					
0:00		<u> </u>										201	ICINE	HAFTIN							
0:00													MEINP	11 1 n 2							
0:00																_					\Box
0:00			6 21	n. Burr	line &	retriev	wire	out of ho	ole					<u></u>							\dashv
0:00			- Jai	Dan		. 54.1676		30.01110													
0:00																					
0:00													 -								
Daily T	otal	20.50										 				-					1

		Eng	ineering	, & Su	pervisi	on	_	E	XAC	T	En	gin	eer	ing, Inc	;,			(918) 5	99-940	0		
Oper	ator:	Wolver	ne G&O C	o of Uta	h, LLC				ILY (OR	XIL	LIN		REPO	RT				midnig	ht to m		ht	
DATE 01/	/17/05	WELL	olverine	Federa	1 17-3	CONT	RACTO		Rig #1	11				INTY, STATE EVIER, UT	SPUD DATE	43-0	ари 041-3		36	SUPERV	risor arren	Na	vlor
DAYS F	/ SPUD		ENT OPERAT	TIONS @ N	IDNIGHT	.—		OTAL C	DEPTH	-	PRO	OGRES	s	DRILL	ING TIME	ROP			RMATION	TAU	TH. DE	PTH	
<u> </u>	39		WO cu	t & thre	ad too	is			7,150		<u> </u>	98		5	.50	17.5		<u> </u>	Navaj	0	6550)' / '	7100'
w	Ť	VIS.	WL		СК	PH	SAI	NO	SOLID	S %		00 D ∾	ATA YP	GELS	DEPTH	DATE/TIME	Сн	LORIE	DES	CALCIUM	МВТ	S	ALT PPM
10	.3	41	10.	0 2	/32	9.0	0.5	50	2.8	3		7	6	5/6	7150	1/17/08:30	20	00,00		1050	##	3	30,000
										=	В	IT D											
BIT	SIZE	MFG.	TYPE	CODE	SERIA	L NO.			(1/32nd") TFA] "	N.	OUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTR	WOB	DU T	B C	ONDITION
RR: 8	.500	SEC	XS20S	517x	10550)427	16	Ŀ	16	16	68	354	7150	296	13.50	21.9		Y	140	35	8	E	1/8
					ļ			L			 	_				#DIV/)!				Ц		
				ļ	 			+			┼	-+		 	 	#DIV/				ļ	\vdash	{	
				<u> </u>	<u></u>						<u>_</u>	ᆜ			<u> </u>	#DIV/0)! 						
PUMP	MANU	FACTURE	LINER	STROKE	GAL / ST	K SPN	<i>i</i> 1 .	GPM	DRAUL		v oc l	PUN	AP I	MTR DIFF	НН	P / IN²	EC	CD.		SLOV 160 spm			100 spm
NO.				LENGTH								PRES		PRESS.			<u> </u>						
1	+	tional	6	8.5	2.97	123	3 3	365	 	-		<u> </u>	\dashv				}		1_	400		4	
2	+	tional	-6-	8.5	2.97	120	+	0	170	1		450	. -	450	 		├	\dashv	2	400	<u></u>		
Both	<u> </u>		DRILL S	TOINE	5.94	123	<u> </u>	365	172		89	150		150 GEOLOGI			<u> </u>	i		GENER	IAI I	VIE7	
вотт	OMHOLE A				O.D.	1	.D.		FORMATIC	N.		MD	T	TVD		LITHOL	ÖĞY				INFO	NFC	
8 1/2"	bit			1.00		ļ			Navajo		6	5,501	\perp	5,98	4				Rig No)		ί	Jnit 111
6 1/2 r				0.00		ļ		╢—			├—		4						Cell N			3-64 T	15-6671
23 5" Jar	HWDP		 -	2.00		 		╚			<u></u>			GAS DATA		<u></u>				OP Tes		\dashv	1/7 2/7
3 5" H				0.00		 		ВО	110MS UP	TIME		G GAS to 25		CONN	SAS	TRIP (afety M		, †	1/17
	···-		1					上	GAS UNITS	 S		FROM	<u></u>	SHOWS		ROP (F1		\dashv		OP Drill		7	1/16
																			Last O	perate F	Pipe F	≀ar	1/17
			ļ					<u> </u>			<u> </u>		4					_	Last O	perate E	Blind	₹a	1/17
Total	BHA:	BHA WT.	847 PUW	7.00 r.	SO WT.	ROT. T	ORQUE	GR	D. ELEVAT	ION	GL	. TO KE	,- -	K8 ELEVA	TION	INTERMEDI	ATE CS	sc		perate /			1/7 ASING
160	0	50	200		130	20	00		5,736			17		5,753	3				58	28		T)
											કા	JRVE	Y\$										
MD	INCL.	AZIMUT	H TVD	SECTION	N+ / S-	E+/W	<u>+ - c</u>	ous	TOOL		4D	INCL	+-	AZIMUTH	77	VD	SECT	ION	N+/S-	E+ / W-	DLS	4	TOOL
	 	 	1		 -	 	+-			<u> </u>	-+		+					\dashv				+	
											AIL	AC	TIVIT									=	
FROM	ΤQ	HRS	+		NIGHT TO		нт			_		_											
0:00	2:30	2.50			to 7150									 									
2:30 4:30	4:30 5:30	1.00		OH to	& condi	uonic	or log	<u> </u>						······································									
5:30	6:30	1.00		1 2' fill	31100									····									
6:30	12:00	5.50	PO	OH f/ ld																			
12:00		+							gging c	rew	& U	nit ri	g cre	w									
12:30					gers, F									·									
13:30 14:30									pass w	_			n too	ol stuck			-						
15:00	0:00	9.00							read to			11 00	11. 100	JI SILICK	A lamin		壮					_	
0:00														^	Miles 10		,_ , ,=== .						
0:00															-								
0:00		ļ																					
0:00		1	6 ar	n. WO	strippir	ng too	IS																
0:00		 	 																				
0:00			 																				
Nailv T	ntal	24.00										-										_	

		Eng	ineering	g & Suj	oervis	ion		E	XAC	TE	ngi	ine	erir	ng, Inc				(918) 5	99-940	0		
	ator:		ine G&O C	o of Uta	h, LLC		-		LY	DRI	LL			REPO					midnig	ht to m		ght	
DATE 01	/16/05	WELL	olverine	Federa	17-3	CON	TRACTO		Rig #1	11		- 1		ity, STATE ier, UT	10-Dec	43-0	AP# 041-3		36	SUPERV		n Na	aylor
DAYS F		PRES	ENT OPERAT	-			T		DEPTH	f	PROGR				ING TIME	ROP		FOF	RMATION		TH. D		
	38			Drillin	9			_	7,054			200 D DA		8	.00	25.0	_	<u></u>	Navaj	0	655	01/	7100'
w	т]	VIS.	WL		СК	PH	SA	NO	SOLID	_	PV		YP	GELS	DEPTH	DATE/TIME	CH	LORI	DES	CALCIUM	мвт	s	ALT PPM
10	.1	40	8.0) 2	/32	9.5	0.	50	2.0		9	\perp	6	4/5	6875	1/16/08:30	20	00,0	00	1080	##	_ 3	30,000
				1	T 0254			1570				DAT		F407105	Lausa								
BIT NO.	SIZE	MFG.	TYPE	IADC CODE	SERIA	L NO.			(1/32nd") TFA		"IN	⊥°)UT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTF	WOB	7		ONDITION
RR 8	.500	SEC	XS20S	517x	1055	0427	16	<u> </u>	16	16	6854	4		200	8.00	25.0		Y	140	35	↓_	_	<u> </u>
$\vdash \vdash$					 			╀~							<u></u>	#DIV/(_	╄-	L	-	├-	_	L
+				 	├			╁╌				+-	}			#DIV/0		-	 -	 -	╀╌		
				<u></u>					DRAULI	re	_	느				#51070	/ <u>1</u>	<u> </u>		SLOV	7 51	D.B	
PUMP	MANU	FACTURE	R LINER	STROKE	GAL / ST	rk SP	м	GРM	AV DP	AV D	<u> </u>	PUMP	,	MTR DIFF	НН	2 / IN2	ΕC	CD					100 spm
NO.				LENGTH	ļ <u> </u>	-	_		<u> </u>		<u> </u>	PRESS.	<u> </u>	PRESS.									
1	+	tional	6	8.5	2.97			365	 	 	+		-		ļ		 	{	1	400	╁—		
2 Both		tional	6	8.5	2.97 5.94	+		0 365	172	189	; + ;	1500	-	150			-	\dashv	2	400	L		İ
Dour			DRILL S	TRING	3.54		.5 .	T	11/2	1 100	<u></u>	1300		EOLOGIC	<u> </u>		<u> </u>		L	GENER	ΔΙ	NE	
вотт	OMHOLE A				O.D.		I.D.	上	FORMATIO	N	М	0	Ľ	TVD		LITHOL	OGY				INFO	_	
8 1/2"				1.00		↓_		╨	Navajo		6,5	501	<u> </u>	5,98	4				Rig No				Unit 111
6 1/2 1			+	0.00				╟		-+			-					[Cell N			8-6	45-6671
23 5 Jar	HWDP			4.00 2.00		┼							<u> </u>	GAS DATA CONN G					·	SOP Tes		\dashv	1/7 2/7
3 5" F	WDP			0.00		†			110MS UP	IIME	BG G		 	CONN G	ias	TRIP (AS_	\dashv		afety M			1/16
						\top		1=	GAS UNITS	5 1	FRO		_	SHOWS		ROP (F1	/HR)	=		OP Drill		3	1/16
																			Last O	perate F	Pipe	Rar	1/14
			ļ																Last O	perate E	3lind	Ra	1/14
Total	BHA:	BHA WT.	847 PUW	.00	SO WT.	ROT	TOROU	GR	D. ELEVAT	ION	GL TO	O KB		KB ELEVA	TION	INTERMEDIA	ATE CS	sg		perate A			1/7 CASING
160		50	200		130	+	200		5,736		17			5,753						328			D
								_			SUR	₹VEY	5									_	
MD	INCL.	AZIMUT	H TVD	SECTION	N+ / S-	E+ /1	W- C	DLS	TOOL	MD	<u> </u>	INCL.	A	ZIMUTH	T	/D	SECT	ION	N+/S-	E+/W-	DL	s	TOOL
	 		+							<u> </u>	╫	\dashv										+	
	1								لصطا		<u> </u>	ACTIV	ЛΤΟ							<u> </u>		_	
FROM	TO	HRS	24 H	OURS - MIC	NIGHT TO	MIDNE	GHT			DA	<u></u>												
0:00	5:30	5.50		bit & n																			
5:30	7:00	1.50		R 6690																			
7:00	12:00 12:30			1 6754			ont .	100	psi. pre	ee loe												_	
	17:00	+		OH to				+00	pai. pi e	33 103	<u></u>			 									
	17:30							up	check p	ressu	ire.			·····								_	
	20:30		RIH													-uTl	I						
20:30		0.50		y up w			tm.								ANCIL	FMII	<u>11-</u>						
21:00	0:00	3.00	Drill	6961	o 7054	1									MALI	٠٠٠٠							
0:00 0:00			 -																				
0:00		 	 -																				
0:00		 -	 																				
0:00			6 ar	n. POC)H f/ lo	gs 1	TD 71	50 (@ 02:3	30				· · · · · ·								_	
0:00																							
0:00			ļ																				
0:00	<u> </u>	 	ļ																				
Daily T	otel	24.00	 																			_	
muv I	UMI	1 ∠4.00	1																				

		En	gineerin	g & Su	pervisi	on	<u> </u>	E	XAC	T	En	gin	lee	rin	ıg, İnc				(918) 5	99-940	0		
Оре	rator:	Wolve	rine G&O	Co of Uta	h, LLC		D	Al	LY	DR	RIL	LII	NG	R	EPO	RT		24 hi	rs -	midnig	ht to m	ldnig	tht	- 1
DATE	1/15/05	WELL	Volverine	Eedera	1 17-3	CONT	RACTOR		Rig #1	11		12.	i i		TY, STATE ier, UT	SPUD DATE 10-Dec	13-0	API#		26	SUPERV	rison arren	Nic	wlor
	F/ SPUD		SENT OPERA	TIONS @ A	MIDNIGHT			TAL D	EPTH		PRO	OGRES	SS	700	DRILL	ING TIME	ROP	/+ 1-c		RMATION	AU	TH. DE	PTH	
	37		Layin	g down	core #	6		(6,854		<u> </u>		7		7.	.50	4.9		<u> </u>	Navaj	<u> </u>	6550)' / '	7100'
_	wr T	VIŞ.	(w	<u>. 1</u>	СК	PH	SAN	0	SOLID	S %	_	UD (DATA YP	_	GELS	DEPTH	DATE/TIME	Сн	LORIE	ES	CALCIUM	МВТ	S	ALT PPM
1	0.1	39	11	.2 2	2/32 1	0.0	0.5	0	2.0)	1	7	4		3/4	6817	1/15/09:00	20	0,00	00	1100	##	3	30,000
													ATA			1 75.63								
BIT NO.	SIZE	MFG.	TYPE	CODE	SERIAL	L NO.			(1/32nd") TFA			N .	ÖÜ.		FÖÖTAGE	HOURS	ROP		MTR	RPM RT+MTR	WOB	Ť	B B	G
\vdash	8.500		CUR77FI	_	2016).9		+	739	679	-	58	8.00	7.3		n	75	25	11	1	1
-	8.500		CUR77FI		2016			+-	0.9		+-	797	681	-	20	3.50	5.7		n	70	20	11	4	
RR1	8.500	DPI	CUR77FI	' 	2016	628		۲	0.9		+**	317	685	*	37	7.50	4.9 #DIV/0)i	n	65	28	1	4	<u> </u>
岸								HY	DRAUL	CS				=					_		SLOV	V PU	MP	
PUM		UFACTUR	ER LINER		GAL / ST	K SPM	G	PM	AV DP	A	V DC	PU			ATR DIFF	нн	7 / IN ²	EC	Ö		60 spm	80 s	pm	100 spm
NO.		lational	6	LENGTH 8.5	2.97	100	+-	97		╁╴		PRE	SS.		PRESS.	ļ. .		-	\dashv	1	400			
2		lational	6	8.5	2.97	0	+-	0	 	_			\dashv					 	ᅱ	2	400	┢	7	
Bot	h				5.94	100	2	97	150	1	70	110	00											
			DRILL S											G	EOLOGIC	;					GENEF		NFC)
8 1/2	TOMHOLE	ASSEMBL	Y LENG	1.00	0.0.	7.5			PORMATIO Navajo		 	MD 3,501	\vdash		5,98	4	LITHOL	OGY		Rig No		INFO		Jnit 111
Core				5.73				\vdash	Ivavajo		Τ,	,,50	+		5,30	·			\dashv	Cell No		91		15-6671
23 5	" HWDF		69	4.00											******					Last B	OP Tes	t		1/7
Jar				2.00		ļ		BŌT	TOMS UP	TIME		G GAS			GAS DATA CONN G	AS	TRIP	AS	킈		OP Tes		4	2/7
3 5"	HWDP		- 9	0.00		 	{	Ŀ	53		<u></u>	to 2:			0 SHOWS		0				afety M		9	1/14
		 	+			 		-	GAS UNITS	S	- '	ROM	\dashv		10		ROP (F1	/HR)	\exists		OP Drill perate F		Ran	1/13
																					perate E		-	1/14
	I BHA:	BHA WT.		2.73	so wr.	ROT. TO	BAILE	CE	D. ELEVAT	101		TOK			KB ELEVA	TION	INTERMEDIA	VE 스스			perate /			1/7 ASING
	55	50	17:		135	18		GK	5,736	1011	٣	17	+	-	5,753		HTERMEON	112 00	1		28		TI	
								_		_	SI	JRVI	EYS						_					
MD	INCL	. AZIMU	TH TVD	SECTION	N+/S-	E+/W-	DL	.s	TOOL	М	/ID	INC	-	_ A	ZIMUTH	<u></u>	/D	SECT	ION	N+/S-	E+/W-	DLS	7	TOOL
	+	+		 	ļ	 	╁┈	+		┝一	{		+						┪				+	
二										D	AIL	YAC	TIVI	ΤΥ					_					
FROM		HRS		IOURS - MI			íŤ																	
0:00 4:30				OH w/ core #			20'																	
6:00				H f/ core		V C I C C Z																		
10:00	10:30	_		servic	е																			
10:30				re 6817						-														
18:00				OH w/			201									HTTI								
0:00		1.50	l LD	core #	6 recov	/ered 2	22						0	ri	([]]	HIM	<u> </u>			 .				
0:00		 	1										T	H	HITE		 -		_					
0:00													*			······································								
0:00		 																						
0:00	+	+	+																					
0:00	†	1-	6 a	m. Rea	ming @	6836																		
0:00																								
0:00	1																						_	
0:00	+	 	+																-					
Daily	I Total	24 00	,																					

	·	En	gineerin	7 & S	upervi	sion		- E	XAC	TE	Ξης	gine	eri	ng, Inc	;,			(918) 5	99-940	0		
Oper	ator:	Wolve	rine G&O (o of U	tah, LLC	;		DA	ILY [DR	ILI	LIN	GI	REPO	RT		24 h	rs -	midnig	ht to m	idniç	jht	
DATE	14.4105	WELL			-147.0	CC	NTRAC		Di- #4	44		T		NTY, STATE	SPUD DATE	42.0	API#		26	SUPER		Nia	
	/14/05 / SPUD		Volverine Sent Opera			, 		TOTAL	Rig #1	11	PRO	GRESS		vier, UT	ING TIME	ROP	041-3		RMATION		arrer		
<u></u>	36	<u> </u>		Coring	g#5				6,817		<u>_</u>	78		12	2.00	6.5		L_	Navaj	<u> </u>	655)' / 7	7100'
w	т Т	VIS.	T w		ск	PH		SAND	SOLID	S %	MU	UD DA	YP	GELS	DEPTH	DATE/TIME	Ј сн	LORIE	DES I	CALCIUM	мвт	S	ALT PPM
10		39	8.		2/32	9.2	+	0.50	2.8		9		5	4/5	6780	1/14/8:45		0,00		1100	##		30,000
												IT DA											
BIT NO.	SIZE	MFĞ.	TYPE	ÇOD		IAĽ NO.			(1/32nd") r TFA		I		OUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTR	WOB	DU T	B B	ONDITION
11 8	.500	DPI	CUR77F		201	6628			0.9		67:	39 6	797	58	8.00	7.3		n	75	25	1	1	
kR1 8	.500	DPI	CUR77FI	\	20	6628	╀		0.9		679	97 6	817	20	3.50	5.7		n	70	20	1	-1	1
				+			╀╌				├─			 	 	#DIV/0		-	 	├	+	{	
岸				<u></u>		==		HY	DRAUL	CS	<u>-</u>		==			#5177	-	<u></u>	L	SLOV	U PU	MP	
PUMP	MANU	JFACTUR	ER LINER	STRO	KE GAL /	STK S	РМ	GPM	AV DP	_	DC	PUMP	T	MTR DIFF	ння	P / IN ²	EC	Ö					100 spm
NO.	+	-4:1		LENG		. .		207	 	├		PRESS	-	PRESS.			-			400		-	
1 2	 	ational ational	6	8.5		_	00	297 0	 	╁─	\dashv		╁		 			┥	2	400	╁╌	\dashv	
Both	+	ational			5.9		00	297	150	17	70	1100	+		f		1	_	<u>-</u>	1 400	1	1	
<u> </u>			DRILL S	TRING	;	==		=						GEOLOGIC	3					GENE	EAL I	NFC	,
	OMHOLE	ASSEMB			O.D.	Ţ	I.D.	\dashv	FORMATIO	_		MD	T	TVD		LITHOL	OGY				INFO	_	
8 1/2" Core t				1.00 5.73		+			Navajo	'	6	,501	┿	5,98	4			{	Rig No Cell N		04		Jnit 111
	HWDF	,		4.00		+		╢		\neg	<u> </u>		+							OP Tes		0-04	1/7 1/7
Jar				2.00				ВО	TTOMS UP	TIME	BC	G GAS	_	GAS DATA CONN G	AS	TRIP	GAS	=		OP Te		7	2/7
3 5" F	IWDP		9	0.00		I			53		11	to 25	\mathbb{L}	0		0			Last S	afety M	eetin	g	1/14
						_		╓	GAS UNITS	5	F	ROM	 	SHOWS		ROP (F	T/HR)			OP Dril		4	1/13
						+		- -					┼-							perate l		_	1/14
Total	BHA:		88	2.73				-1-		\dashv			+-			··		╢		perate l		_	1/14
STRING	WT.	BHA WT	PUW	Τ.	SO WT.	RO	. TORG	UE G	RD. ELEVAT	ION		то кв	#	KB ELEVA	TION	INTERMEDI	ATE CS	G	LAST	CASING	NI	XT C	ASING
15	5	50	175		135	<u> </u>	185		5,736			17	<u> </u>	5,753	3				58	28	<u> </u>		
MD	I INCL.	AZIMU	TH TVD	SECTIO	ON N+/5	- E+	/W-	DLS	TOOL	м		RVEY	_	AZIMUTH	T\	/D	SECT	ION	N+ / S-	E+/W-	DL:		TOOL
											\Box												
	<u></u>									L							Ĺ				Ĺ	\perp	
FROM	1 70	HRS	241	OLIDS A	MIDNIGHT	TO MID	JICHT			D,	AILY	ACT	VIT									_	
0:00	2:30				25 to 6																		
2:30	10:30	_		re # 4	, 6739	to 67	97																
10:30				servi																			
11:00					// core											·							
15:00 16:00		_			n core	# 4 [6	COVE	160 2	<i>r</i>					 									
20:30	0:00	3.50			7 to 68	317								- 1 1	INE NT	141			·				
0:00											_			CUMP	IDELL	/ N						_	
0:00		ļ												Λοιν									
0:00	 	 																	 -				
0:00	 -	 	6.2	m. La	vina de	wn c	ore #	5 cut	20' jam	mer													
0:00	 -	 	<u> </u>		<i>,</i> 9 ac		J. U 11	- Jul	_0 jaiii	.,,,,,,(-										
0:00																							
0:00		ļ	4																			_	
0:00																							
0:00		 	+																				
Daily T	ntal	24 0	1														-	-					

		Eng	ineering	y & Su	pervis	ion		E	XAC	TE	ngi	nee	rin	g, Inc				(918) 5	99-940	o	
Opera	tor:	Wolver	ne G&O C	o of Uta	h, LLC		[DAI	LY	DRI	LL	ING	R	EPOI	RT		24 h	rs ·	midnig	ht to m	idnight	,
DATE		WELL				CON	TRACTO	DŘ				C	OUN	TY, STATE	SPUD DATE	<u> </u>	AP#			SUPERV		
	13/05		olverine						Rig #1				evi	er, UT	10-Dec		41-3		36		TH. DEPT	
DAYS F	35	PRES	ENT OPERAT	Hf/cor			- ["	OTAL D	5,739	l	PROGR	50			.50	11.1		1	Navaj	1	6550' /	
			101	111/ 001	0 11 7				,,, 00	ᆂ	MUL	DATA					==	<u> </u>	- Travaj		0000 /	7,700
Wī		VIS.	WL		СК	PH	SA	ND	SOLID	S %	PV	YP		GELS	DEPTH	DATE/TIME	СН	LORI	DES	CALCIUM	мвт	SALT PPM
10.	2	38	13.	6 2	/32	11.0	0.	50	2.5	5	8	6	\Box	5/6	6721	1/13/10:30	19	95,0	00	1040	##	321,750
												DATA										
BIT S	IZE	MFG.	TYPE	CODE	SERIA	L NO.			1/32nd") TFA		- IN	00	7	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTR	WOB	T B	G
RR 8.	500	SEC	XS20S	517x	1055	0427	16	1	6	16	6689	673	39	50	4.50	11.1		у	140	35	3 3	1/8
																#DIV/0)!					
				<u> </u>	ļ			4_		_		 	4			#DIV/0		_	ļ	<u> </u>	 	ļ
	i_			<u> </u>	<u> </u>			1_				<u></u>				#DIV/0)!			<u> </u>		1
211112	T			Larnaur	GAL / ST				RAULI					TO 0.55		2 (11)2		í			V PUMI	
PUMP NO.	MANU	FACTURE	LINER	LENGTH	GAL/SI	K SPI	*	GPM	AV DP	AVC		PUMP RESS.		ITR DIFF PRESS.	1	> / IN2	EC	.		ou spin	ou spii	100 spm
1	Na	tional	6	8.5	2.97	12	5	371			\Box								1	400		
2	Na	tional	6	8.5	2.97	0		0											2	400		<u> </u>
Both	<u> </u>			<u> </u>	5.94	12	5	371	177	19	5 1	500		200	<u> </u>		L		<u> </u>	·····		
			DRILL S					I					G	EOLOGIC	· · · · · ·					GENE		Ō
8 1/2" 1		SSEMBLY	+	1.00	O.D.	+	l.D.	┨	Navajo		6,50			TVD 5,98	4	LITHOL	OGY		Rig No		INFO	Unit 111
6 1/2 n				0.00		†		╫┈	Havajo		0,0	``	_	0,00	·		-	ᅱ	Cell N		918-6	345-6671
23 5"			+	1.00		 		1		\neg			-,					\neg		OP Tes		1/7
Jar			32	2.00		1		вот	TOMS UP	TIME	BG G	AS	_	GAS DATA CONN G	AS	TRIP	AS		Next E	OP Tes	st	2/7
3 5" H	WDP		90	0.00					53		1 to	25		0		0			Last S	afety M	eeting	1/13
									GAS UNITS	5	FRO	м	_	SHOWS TO		ROP (FT	/HR)		Last B	OP Dril		1/13
			 			<u> </u>		<u> </u>		_								_		perate F		
			 		54,554264		10.0.00													perate E		
Total STRING		BHA WT.	847 PUW	7.00	owt.	ROT	ORQU	GRI	D. ELEVAT	ION	GL TO	KB		KB ELEVA	TION	INTERMEDIA	ATE CS	iG		perate Asing		1/7 CASING
155		50	175		135	1	85		5,736		17			5,753					58	28		rD
											SUR	VEYS	_									
MD	INCL.	AZIMUT	H TVD	SECTION	N+ / S-	E+ /\	V-	DLS	TOOL	MD	- "	VCL.	_ A	ZIMUTH	7	/D	SECT	ION	N+/S-	E+ / W-	DLS	TOOL
		 	 			├	+-	{			+-	-+										
		<u> </u>				<u></u>	<u> </u>				100	CTIVI	-									<u> </u>
FROM	то	HRS	24 HC	OURS - MIC	NIGHT TO	MIDNIC	HT			UA	ILT A	CIIVI	117									
0:00	2:00	2.00	LD	core#	3 reco	ver 2	2'															
2:00	7:00	5.00	PU	bit & n	notor R	IH.																
7:00	8:00	1.00		R 6600																		
8:00	12:30			1 6689		9																
12:30 13:30	13:30 18:00			OH for		arrol																
18:00	0:00	6.00		bit & m			re h	arrel	RIH						P 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	777						
0:00	0.00	1 3.00	 	w 11	J. 101 , 10				1				_	MIL	11/1/11	141						
0:00													7	TUNE	IRPIT							
0:00																						
0:00			ļ]
0:00		 	6 ar	n. Cori	ng @ (3756	5' hr.									. <u>. </u>						
0:00		 	 																			
0:00		 	 																			
0:00		 	 																			j
0:00			 																			
		 																				
	• • •	24 22	 																			

		Eng	ineering	8 S	upervis	ion							ng, ind				(918) 5	99-940	0	
Oper	ator:	Wolver	ne G&O C	o of U	tah, LLC)AI	LY	DR	ILLI	NG	REPO	RT		24 hi	rs - 1	nidnig	tht to m	idnigh	ť
DATE		WELL				CONT	RACTO					1	INTY, STATE	SPUD DATE	1	API#			SUPER	/ISOR	
DAYS F	/12/05		Olverine I			ᆚ		Unit	Rig #1	11	PROGR		vier, UT	10-Dec	43-0)41-3		6 MATION		arren 1	
UATSF	34	PRES		D core			1"		6,689			23	i	1.00	2.1		1	Navai	- 1		/ 7100
				-					3,000			DATA	<u> </u>	1.00				, tava,			7 7 700
w	т.]	VIS.	WL	т.	CK	PH	SAN	ND	SOLID	s %	PV	YP	GELS	DEPTH	DATE/TIME	СН	LORID	ES	CALCIUM	MBT	SALT PP
10	.0 .	39	12.	0	2/32	11.0	0.5	50	2.5	;	8	7	5/6	6671	1/12/09:30	18	38,00	00	1040	##	310,20
											BIT	DATA									
BIT NO.	SIZE	MFG.	TYPE	CODE		L NO.			1/32nd") TFA		IN	OUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MT	WOB	DULL T E	CONDITIO
	.500	DPI	301	1 335	1963	321		т	.9	一	6666	6689	23	11.00	2.1		_	80	25	3 3	
								†	-	_		1		1	#DIV/0)!			1	†*†	+
								1					1	†	#DIV/0)!	П		1		
								T							#DIV/0)!	П		1		1
								HY	RAULI	CS									SLOV	V PUM	P
PUMP	MANU	FACTURE	LINER	STROP		K SPM	7	3PM	AV DP	AV	1	UMP	MTR DIFF	ННЕ	7 / IN2	EC	D.		60 spm	80 spn	100 sp
NO.	- N.	ational	+	LENG1		05	+-	282			PR	ESS.	PRESS.	 					100	 	
<u>1</u> 2	+	ational ational	6	8.5 8.5	- 	95		0	 	-	+-		 	 		-		$\frac{1}{2}$	400	 	┼
Both	+	auondi	1-	0.5	5.94	95		282	133	14	6 6	00		 			╌╢		400	L	
500			RILL ST	DING		1 30		.02	100		٠٠٠		GEOLOGI						GENE	AL IN	
BOTT	OMHOLE !	ASSEMBLY	LENGT		O.D.	1.0	D.	-	ORMATIO	N T	MD		TVE		LITHOL	OĞY				INFO	-0
8 1/2"	bit		1	.00					Navajo		6,50	1	5,98	4				Rig No	,		Unit 11
Core a	ssemb	ly	68	.00														Cell N	τ	918-	645-667
23 5"	HWDP	· 	694	.00				L										Last E	OP Tes	t	1/7
Jar			32	.00		ļ		вот	TOMS UP	TIME	BG G/	is	GAS DATA CONN (GAS	TRIPG	AS	\exists	Next E	OP Te	it	2/7
3 5" H	WDP		90	.00		}		 	53	L	1 to 2	25	0 SHOWS		0		_#	Last S	afety M	eeting	1/11
			 			 			GAS UNITS	4	FROM		10		ROP (FT	/HR)	7		OP Dril		1/11
			 -			 		} —		+							~		perate l		
Total	BHA:		885	00				 - -		-+									perate l		
STRING		BHA WT.	PUWI		SO WY.	ROT. TO	RQUE	GRE	D. ELEVĀTI	ON	GL TO	КВ	KB ELEVA	TION	INTERMEDIA	TE CS			perate .		1/7 CASING
150	0	50	170	\perp L	135	18	5		5,736		17		5,75	3				58	28		TD
											SURV	EYS									
MD	INCL.	AZIMUTI	TVD	SECTIO	N N+/S-	E+/W	D	LS	TOOL	MD	IN	CL.	AZIMUTH	Ťν	0	SECTI	IÓN	N+/S-	E+ / W-	DLS	TOOL
	+	+	 		 	 	╁										+				
		<u></u>	<u> </u>			<u> </u>	<u> </u>														<u> </u>
FROM	70	HRS	24 HO	URS - M	IDNIGHT TO	MIDNIGH	iT			DA	ILY A	CTIVIT	<u> </u>								
0:00	1:00	1.00	Wai	t on b	it, Wea	ther cid	osed	180													
1:00	7:00	6.00	Mai	e up	bit, load	barre	,RIH	l													
7:00	16:30	9.50			6 to 668	34															
16:30	17:00			servi																	
17:00	18:30				4 to 668									171							
18:30	23:00				core #	3							اسلالا	#MI	HL	·					
23:00	0:00	1.00	LD	core									Thir 7	V							
0:00 0:00		 -	ļ									<u> </u>	-								
0:00		 																			
0:00		 																			
0:00		T	6 an	n Rui	nning in	hole w	// bit	to di	rill 50'												
0:00															- 1						
0:00																					
0:00																					
0:00																					
T																					
0:00																					

		Engi	neering	& Su	pervis	ion	` `	E	XAC	T	En	ain	eeri	ng, Inc	· · · · · · · · · · · · · · · · · · ·			-	918) 5	99-940	0		
Opera	ator:	<u>_</u>	e G&O C							_				REPO			24 h	<u> </u>		ht to m		ht	
DATE		WELL				COI	VTRAC'					٦	i .	INTY, STATE	SPUD DATE		API	¥		SUPER	/ISOR		
DAYS F	11/05 SPUD		IVERINE F				1	Unit	Rig #1	111		OGRES		vier, UT	10-Dec	43-(ROP	041-3		36 RMATION	AU	arrer	PTH	
ļ	33	<u> </u>	W	O core	e bit				6,666		<u></u>	2:		14	1.00	1.6		_	Navaj	0	6550)' / 7	7100'
w	-	VIS.	l wi		ск	PH	5	AND	SOLIE	os %	_	UD C ∾ T	DATA YP	GELS	DEPTH	DATE/TIME	СН	LORI	DES I	CALCIUM	мвт	S/	ALT PPM
10		36	14.8	-+-		10.8		.50	2.			7	7	5/6	6657	1/11/7:45	+	98,0		1069	##		26,700
										=	В	IT D	ATA										
BIT :	SIZE	AFG.	TYPE	IADC	SERIA	L NO.			(1/32nd*) TFA		7 '	ÍÑ	OUT	FOOTAGE	HOURS	RÓP		MTR	RPM RT+MTF	WOB	DU T	LL CC	ONDITION
	.500 C	DPI	401	-	1962	490		\neg	0.9		66	343	6666	23	14.00	1.6		n	80	25	3	3	i
											I					#DIV/0)!						
lacksquare		-			ļ			4-	_		↓_	_	·	ļ		#DIV/0		<u> </u>	ļ	<u> </u>	4-1	4	
			لــــــا		<u> </u>						<u></u>	ᆜ		<u> </u>		#DIV/0)!	<u></u>	<u> </u>	<u> </u>			
PUMP	MANUE	ACTURER	LINER	STROKE	GAL / S	rk si	м Г	HY GPM	DRAUL AV DP	_	AV DC	PUN	MP I	MTR DIFF	нне) / !N²	F	CD		SLOV			100 spm
NO.	, was	ACTORER		LENGTH	1				A			PRE	,	PRESS.	.,,					UU Op.			100 0
1	Na	tional	6	8.5	2.97	9	5	282	ļ	\perp		L_	\perp		ļ		<u> </u>		1	400	<u> </u>	_	
2	Na	tional	6	8.5	2.97		<u>-</u>	0		+			_				 		2	400	ــــــــــــــــــــــــــــــــــــــ		
Both	<u> </u>				5.94] 9	5	282	133	<u>T</u>	146	90		APAL 8 AL			<u></u>		<u> </u>				
BOTTO	OMHOLE A		RILL ST		O.D.	1	I.Ō.	╁	FORMATIO	ON	_	MÔ		GEOLOGIC TVD		LITHOL	OGY			GENE	CAL I	NFC	
8 1/2"	bit		1	.00					Navajo	0	Te	5,501		5,98	4				Rig No	<u> </u>		L	Jnit 111
Core a	ssembl	у	68	.00		1		1			╀							_	Cell N			8-64	5-6671
23 5"	HWDP		694			↓		- -			Щ,			GAS DATA	l					OP Tes		4	1/7
Jar	MDD		 	.00		+		BO	TTOMS UP	TIM	_	G GAS		CONN	SAS	TRIP	SAS	=		SOP Te		_	2/7
3 5" H	IVVDP		90	.00		+-		上	53 GAS UNIT			to 2		O SHOWS TO		0 ROP (FI	- AUEN	ᆿ		afety M		9	1/11
						_		╫	GAS UNII	3	+-'	·KUM		10		ROP (F	I/RK)	ᅱ		perate		₹ar	1/11
											工								Last C	perate l	Blind	Ra	1/11
Total		un as	885				PAKA			=.611		TOK		KB ELEVA	*:00	INTERMEDI	1 7 7 7			perate CASING			1/7
STRING 150		50	170	+	so wr. 135	+	TORQ 185	4	D. ELEVA 5,736	HON	1 61	17	* -	5,753		INTERMEDI	ATE C	36		328	N	TE	
										_		JRVI	EYS									_	
MD	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/	W-	DLS	TOOL		MD	INC		AZIMUTH	Τ\	Ø .	SEC1	TION	N+ / S-	E+/W-	DL	I	TOOL
	 	ļ	 		ļ	 	-		 	 							-	-4		<u> </u>		+	
	<u> </u>	<u> </u>				<u> </u>				Ц_		7.62	TIVIT				_			<u></u>	<u> </u>	<u> </u>	
FROM	ТО	HRS	24 HO	URS - MI	DNIGHT T	O MIDN	IGHT				JAIL.	I AU	, IIVII	Y									
0:00	1:30	1.50		to 66																			
1:30	15:30	14.00			3 to 66																		
15:30 21:30	21:30 22:30	6.00 1.00		OH w/ drlg. L	core #	2, L) sai	ne															
22:30	23:00	0.50		servic											TIME	H							
23:00	0:00	1.00			t, Wea	ther	close	d 180						MF	$\Pi \Gamma M + 1$	17 h							
0:00														OAIM.									
0:00																							
0:00																							
0:00																							
0:00			6 an	n Run	ning ir	hole																	
0:00					9 !!																		
0:00																							
0:00																							
0:00																							
0:00												—											
Daily T	otal	24.00														·							

		Engi	neering	, & Su	pervisi	on		E	XAC	TE	ng	ine	eriı	ng, inc				(:	918) 5	99-940	0	
Opera	tor:	Wolveri	ne G&O C	o of Uta	h, LLC		D	All	LYC	DR	ILL	.INC	G F	REPO	RT		24 h	rs - 1	midni	ght to m	idnigh	t
DATE 01/	10/05		olverine			CONTI		Jnit F	Rig #1	11				ity, state vier, UT	SPUD DATE 10-Dec	43-0	APIA 041-3		36		arren f	
DAYS F/	SPUD 32	PRESE	NT OPERAT	TIONS @ N			то	TAL DE	ртн ,643		PROG	RESS 24			.00	ROP 2.2		1	Mation		лн. dep 6550'	гн / 7100'
								=Ě			MU	D DA	TA									
wr 10.		vis. 41	12.		ск 2/32 1	РH 0.0	SAN 0.5	+	SOLID:		PV 13		YP 11	GELS 7/9	DEPTH 6629	1/10/7:45	+	10RIC	$\overline{}$	CALCIUM 1560	MBT ##	325,050
10.	<u>' </u>		1		.132	0.0 1	0.5		2.			DAT		1/3	1 0029	1/10//.45		37,00	<u>,,, , , , , , , , , , , , , , , , , , </u>	1300]""]	323,030
BIT S NO.	IZE	MFG.	TYPE	IADC CODE	SERIA	. NO.		JETS (1 or T	/32nd") FA		iN		DUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MT	WOB	DULL.	CONDITION G
	500	DPI	401	<u> </u>	1962	036		0.			661		643	24	11.00	2.2		n	80	25	2 2	<u> </u>
9 8.	500	DPI	401	-	-			0.	9		664	3				#DIV/0		Н		+	++	
																#DIV/0						
								HYD	RAULI	cs											V PUM	
PUMP NO.	MAN	JFACTURER	LINER	STROKE	GAL/ST	K SPM	G	PM	AV DP	AV		PUMP PRESS.		MTR DIFF PRESS.	HHF	> / IN ²	EC	;D	-	60 spn	80 spr	n 100 spn
1	N	ational	6	8.5	2.97	95	2	82			\Box								1	400		
2	N:	ational	6	8.5	2.97	0	+-	0	400	14	_	000	-	-					2	400	<u> </u>	
Both			DRILL ST	PING	5.94	95	1 4	82	133	14	0 1	900	<u> </u>	EOLOGIC	<u> </u>		<u> </u>			GENE	או ומכ	-0
вотто	MHOLE	ASSEMBLY	LENGT		O.D.	1.0	D	FC	ORMATIO	N		MD ON	\Box	TVD		LITHOL	OGY				SINFO	
8 1/2" t			+	1.00		<u> </u>			Arapier				-						Rig N			Unit 111
Core a: 23 5" l				1.00		 				-			-					-	Cell N	K BOP Tes		645-6671 1/7
Jar	IVVDI			2.00	· · · · · · · · · · · · · · · · · · ·	 		BOTT	OMS UP	TIMEL	BG	GAS	<u> </u>	GAS DATA CONN G	AS T	TRIP	AS	#		BOP Te		2/7
3 5" H	WDP		90	0.00					53			25		0		0			Last S	Safety M	leeting	1/10
			├	-		<u> </u>			AS UNITS	5	FR	OM	F	SHOWS		ROP (FI	/HR)	7		OP Dril		1/8
			 			├		<u> </u>					 					-		operate l		
Total !	BHA:		885	5.00				-		_			-					-		Operate		
STRING 150		вна WT. 50	170		135	ROT. 10			. ELEVAT 5,736	ION	-	0 КВ 7	Ε.	KB ELEVA 5,753		INTERMEDIA	ATE CS	<u>sc</u>		CASING B28		CASING TD
130			1,70		100		<u>- 1</u>		5,730			, RVEY	<u>-</u>	5,755	<u>' </u>		=			520	<u> </u>	
MD	INCL.	AZIMUTI	TVD	SECTION	N+/S-	E+/W	DI	S	TOOL	MD		INCL.		AZIMUTH	TV	/D	SECT	ION	N+/S-	E+/W-	DLS	TOOL
		 			 	 	-													ļ	<u> </u>	
						<u> </u>	느				<u> </u>	ACTI	//TV								<u></u>	<u> </u>
FROM	то	HRS			NIGHT TO	MIDNIG	íΤ					7011										
0:00	1:00	1.00		to 653																		
1:00 4:30	4:30 15:30	3.50			4 to 664		med	after	r 24'													
	20:30				core#																	
	22:30				eload b	arrel,	chan	ge bi	it.						-HTI	11						
22:30	0:00	1.50	RIH	<u> </u>									- ↑	anfi	FMH						-	
0:00		 											4	MIII II								
0:00																	- ,					
0:00																						
0:00		 	8 0	n corin	g @ 66	.53									·							
0:00			<u>o ar</u>	ii com	9 60 00	,,,,,								·						*		
0:00																						
0:00																						
0:00									<u></u>													
0:00		 																				
Daily To	atal.	24.00							~													

[Engi	ineering	, & Su	pervisi	on		E	XAC	TI	En	gin	neer	ing, In	С.	/		_(918) 5	99-940	0		
Ope	rator:		ne G&O C											REPC			24 h	rs -	midnig	ht to m	idnig	ht	
DATE		WELL				CON	TRAC						1	UNTY, STATE	i _	1	API			SUPER\			
	F/ SPUD		Olverine I			ل		Unit	Rig #1	11	TPRO	OGRES		evier, UT	10-Dec	43-(041-		36 RMATION	I Di	arren	Naylor	
	31			-	barrel		1		6,619				07	1	11.00	18.8	.		Navaj			' / 7100)*
											М	ו סט	DATA										=
	MΤ	VIS.	WL			PH		AND	SOLIC		+	PV	YP	GELS	DEPTH	DATE/TIME		LORI		CALCIUM	MBT	SALT PF	
	0.1	40	14.	4 2	/32	8.5	0	.50	2.	9		10	17	8/10	6560	1/9/08:45	19	97,0	00	1560	##	325,05	<u>;0</u>
BIT	SIZE	MFG. [TYPE	IADC	SERIA	NO T		IFTS	(1/32nd")			SIT D	ATA OUT	FOOTAG	E HOURS	ROP		MTR	RPM	WOB	Lou	L CONDITI	ÖN
NO.	JIZE			CODE	J Chin				TFA		L			1.00					RT+MTR		口	B G	_
7	8.500	Sec	xs20s	447	10550)427	16		16	16	58	328	6619	791	35.50	22.3		у	150	35	4	2 1	
\sqcup					<u> </u>			_ _			╄	_				#DIV/		<u> </u>		<u> </u>	\vdash		
$\vdash \downarrow$								-+-			┼-					#DIV/(╂	ļ.——	 	\vdash		
				<u> </u>		[<u>_</u>	ᆜ				#DIV/0	ינו						_
PUM	P MANI	JFACTURER	LINER	STROKE	GAL / ST	K SP	иΤ	GPM	AV DP		V DC	PUI	MP	MTR DIFF	Н	P/IN ²	F	CD	т-	SLOV		MP m 100 s	ma
NO	MAIN	PRETONEN	CIIVER	LENGTH		3			AV 5"			PRE	- 1	PRESS.		- / !!!				OU Spiii	-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>
1	N	ational	6	8.5	2.97	12	5	371											1	400			
2	N	ational	6	8.5	2.97	0	_	0		\perp		<u> </u>			_ 		<u> </u>		2	400	L		
Bot	<u> </u>				5.94	12	5	371	175	1	92	150	00	150			<u></u>	ل	<u> </u>				
	-000006		ORILL S		O.D.		I.D.		FORMATIO	517		MD		GEOLOG			66V			GENE		1FO	_
8 1/2		ASSEMBLY	+		0.0.	-	1.0.				\vdash	MD	+		, <u>u</u>	LITAGE	.061		Rig No		INFO	Unit 1	11
		ssembly	+	1.00 Arapien Rig No 77.00 Cell No. 918-															-645-66				
	" HWDF		 	.00		 		1			1		\top			<u> </u>			Last B	OP Tes		1/7	
Jar			32	2.00				BO	TOMS UP	TIME		G GAS	\$ [GAS DATA	GAS	TRIP	GAS.		Next E	OP Te	st	2/7	,
3 5"	HWDP		90	0.00							1	to 2	5	()	0			Last S	afety M	eetin	1/8	<u>"</u>
									GAS UNIT	\$	\Box	FROM		SHOWS	· · · · · · · · · · · · · · · · · · ·	ROP (F	T/HR)		Last B	OP Dril		1/8	<u>. </u>
			ļ					- -			Щ.							_		perate f			_
				18888			81805 P	300			├_					· · · · · · · · · · · · · · · · · · ·		-		perate l			_
	I BHA:	BHA WT.	894	.00	SO WT.	ROT.	TORQ	UE GR	D. ELEVA	TION	GI	ток	(B	KB ELE	VATION	INTERMEDI	ATE C	sg -		perate .		ar 1/7	
1:	55	60	195		130	1	85		5,736			17		5,7	53				58	328		TD	
											કા	JRV	EYS										_
MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ /\	N-	DL\$	TOOL	М	AD.	INC	L.	AZIMUTH	T	VD	SECT	rion	N+ / \$-	E+ / W-	DLS	тоо	
		 -			ļ		+			 -	\dashv		+-		 		 -				<u>.</u>		ㅓ
		<u> </u>				<u></u>				<u> </u>													\exists
FROM	TO	HRS	24 HC	OURS - MIC	DNIGHT TO	MIDNIC	SHT			U	AIL	r AC	TIVI	Y									
0:00	11:00	11.00	Dril	l & sur	vey 64	12 to	661	9															
11:0					ples &		slu	g															
13:0					to shoe																		4
14:0			PO		<u> </u>			···							·								4
19:0				dtrc. A										· · · · ·		<u> </u>							4
20:0	7			for co	re bare																		-
0:00	+	3.00	KIL	1 101 00	10#1																		ㅓ
0:00		 																					ᅱ
0:00	 	†													···								┪
0:00														77/	ICINE	MAL		_			_		7
0:00			4 ar	n wash	ning co	e bai	rel (0 659	5'					LU	ALIDE	1111							\rfloor
0:00	<u> </u>	ļ																					
0:00	 	ļ																					╝
0:00	 -																						4
0:00	 	 																					4
0:00	+	+												 									\dashv
Daily	Total	24 00																					\dashv

			Engir	neering	& Suj	pervisio	on `	_ ¯	E	XAC	TE	Ξης	gin	eer	ing, In	С.			(918) 5	99-940	0		
, ,	rato	r: \	Volverin	6&0 C	o of Uta	h, LLC				LY	DR	IL	LIN		REPC					midnig	ght to m		ht	
DATE	1/08/	(05	WELL	verine f	ederal	17-3	CONT	TRACTO		Rig #1	11			l .	ounty, state evier, UT	10-Dec	1	ари)41-:		36	SUPERV	risor arrer	Na	ylor
	F/ SPU		PRESEN	T OPERAT	_				OTAL D	EPTH		PRO	GRES	SS	DRI	LING TIME	ROP	.=::	FOF	RMATION	AÜ	TH. DI	PTH	
	30		<u></u>	Drill	ling @	6412		_ <u>_</u> _	(5,412		_	57			3.50	24.3		<u></u>	Navaj	0	655)' / 'C	7100'
	WΤ		VIS.	l w.		ск Т	PH	SA	ND.	SOLID	5 %	_	UD C	DATA YP	GELS	DEPTH	I DATE/TIME	Сн	LORI	nes I	CALCIUM	мвт	S	ALT PPM
_	0.1	+-	40	14.4			3.5	0.		2.9		 	<u>i</u>	17	8/10	6560	1/9/08:45	+	97,0		1560	##		25,050
三												В	סדו	ATA									==	
BIT	SIZE	М	IFG.	TYPE	CODE	SERIAL	NO.			1/32nd") TFA		1	N	OUT	FOOTAG	HOURS	ROP		MTR	RPM RT+MT	WOB	DL T	B B	ONDITION
NO.	8.500		Sec ;	ks20s	447	10550	427	16			16	58	28	6619	9 791	35.50	22.3		V	150	35	4	2	G I
H	0.000	1		.0200_		1.0000	7-1		+	* -		"	-		1 701	1 00.00	#DIV/0)!	 	1,00	1	Ť	٦	·
\Box		†					7		1				\neg		1	1	#DIV/0					T	٦	
																	#DIV/0)!						
F=									HYI	RAUL	ics										SLOV	VPU	MP	
PUM	РМ	AANUF	ACTURER	LINER		GAL / ST	SPI	м	GPM	AV DP	AV	DC	PUA	- 1	MTR DIFF	H	P/IN²	E	CD		60 spm	80 s	pm	100 spm
NO 1	+-	Nat	ional	6	LENGTH	2.97	12	_	371		╁─	┈┤	PRE:	.55.	PRESS.					1	400	├	\dashv	
1 2	╁		ional	6	8.5	2.97	0		0		 	\neg		-+-		 		 	ᅱ	2	400	1-	\dashv	
Bot	h				0.0	5.94	12	-+-	371	175	19	92	150	00	150	1		t	\neg	<u> </u>	1	1		
=			ъ	RILL \$1	RING		_		Ŧ		-				GEOLOG	IC			=		GENER	AL.	NFO	5
BOT	TOMHO	OLE AS	SEMBLY	LENGT	H	Ō.D.		I.D,		ORMATIC	N		MD		TV	D	LITHOL	OGY	\Box			INFO		
8 1/2					.00				₽-	Arapie				_						Rig N				Jnit 111
			embly		2.00				╂—								 			Cell N			8-64	45-6671
23 5	HVV	IUP			.00				<u> </u>			_			GAS DATA		L		_	_	OP Tes		-	1/7 2/7
Jar 3 5"	HWC)P			0.00				BOT	TOMS UP	TIME		G GAS		CONN		TRIP G	GAS	-		Safety M		ᅱ	1/8
۳					-				#	GAS UNIT	5 7		ROM		SHOWS		ROP (FT	/HR)	7		OP Dril		*	1/8
									┰												perate F		₹ar	1/7
																				Last C	perate E	Blind	Ra	1/7
	BH.		HA WT.	894	.00	SO WT.		TORQU		D. ELEVA1	1011				KB ELE\	::-:A1.	INTERMEDIA	TWP AT		Last C	perate A	Annu	lar	1/7
	55	+-	60	195		130	_	85	GK.	5,736	ION		. <u>то кі</u> 17	-	5,7		INTERMEDIA	A I E C	36		328	- N	TI	
			***************************************									_	JRVI	EYS								=		
MD	IN.	NCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+ / V	N- I	DLS	TOOL	М		INCL		AZIMUTH	T	VD	SECT	ION	N+ / S-	E+/W-	DL		TOOL
	4-							4			<u> </u>	_		_ _		<u> </u>			_				4	
											<u> </u>			ىلن	· · · · · ·	<u> </u>			_1		<u> </u>	<u> </u>		
FROM	.	ro I	HRS	24 HC	DURS - MIC	NIGHT TO	MIDNIG	HT			D,	AILY	/ AC	TIVI	ГҮ								_	
0:00		6:00	16.00			to 627																		
16:0	_	3:30	0.50		servic																			
16:3	0:	:00	7.50	Dril	& sur	vey 627	0 to	6412																
0:00	_																							
0:00	_																							
0:00																								
0:00	_	 }	 								—													{
0:00		-													1 1 1 1 1 1 1 1	int NT	 							
0:00															<i>CUM</i>	MEH I	M. Jac							
0:00	_														AAtar	<u></u>								
0:00																								
0:00	_	\Box																						
0:00	4_																							
0:00	+-																							
0:00	+	\dashv																						
0.00	+																							
Daily	Total		24.00				-																	

			Engi	neering	ı & Sup	pervisi	on \	_	Е	XAC	T	En	gir	nee	rir	ng, Inc				(918) 5	99-940	0		
Op	erato	or: \		e G&O C	<u> </u>											REPO		<u> </u>	24 h	<u></u>	<u>.</u>	ht to m		ht	
DAT			WELL			·	CON	TRACT					_	1		TY, STATE	SPUD DATE		API	*		SUPER	ISOR		
	1/07 F/SP			NT OPERAT			l		OTAL D	Rig #1	11	PRO	OGRE		sev	ier, UT	10-Dec	43-0 ROP)41-		36 RMATION		TH. D		ylor
_	29		<u> </u>	Drill	ling @	5842				5,842		<u></u>		14	لي	1,	.00	14.0		<u> </u>	Arapie	n	6550)' / '	7100'
	wt	Т.	VIS.	WL		СК	PH	SA	ND	SOLIE	os %	_	UD PV	DAT		GELS	DEPTH	DATE/TIME	СН	ILORIC	DES	CALCIUM	мвт	S	ALT PPM
	10.3	\Box	45	33.	0 2	/32	3.5	0.	50	3.	8		6	3		2/3	5828	1/7/22:00	2	50,0	00	1680	##	32	20,000
BIT	Size	: 1 N	IFG.	TYPE	IADC	SERIAL	NO. I		JETS (1/32nd")			IT I	DATA		FOOTAGE	HOURS	ROP		MTR	RPM	WOB	נות	u cc	NDITION
NO.			" J.		CODE					TFA		╄		-							RT+MTF		Ī	В	G
7	8.50	0 8	Sec	xs20s	447	10550	427	16	1	6	16	58	328	-	\dashv	14	1.00	14.0		У	150	35	\vdash	\dashv	
\vdash		+							╁			+-	_	┼─	-			#DIV/0		\vdash		 	\vdash	┪	
\Box		1	_									\perp	_					#DIV/0							
									HYL	RAUL	ics		=									SLOV	V PU	MΡ	
PUI	- 1	MANUF	ACTURER	LINER	STROKE LENGTH	GAL / STI	SPI	M	GPM	AV DP	A'	V DC	1	UMP RESS.		MTR DIFF PRESS.	нн	P/IN ²	EC	CD		60 spm	80 s	pm	100 spm
- <u>```</u>	-	Nat	ional	6	8.5	2.97	12	5	371		1		<u> </u>			· ress.	l				1	400	一	7	
2		Nat	ional	6	8.5	2.97	0	I	0						_						2	400			
Во	th					5.94	12	5	371		L		15	500			L								
		101516																		NFC	5				
	2" bit		SEMBLY	 	LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO 1.00 Arapien Rig No																Jnit 111				
			embly	 	1.00 Arapien Rig No																15-6671				
23	5" HV	VDP		694	1.00											******					Last E	OP Tes	t		1/7
Jar				 	2.00				BOT	TOMS UP	TIME	7-	G GA	$\overline{}$		GAS DATA CONN G	AS	TRIP	AS	#		OP Tes		4	2/7
3_5	HW	DP_		90	0.00				Ł				to 2			SHOWS		0				afety M		9	1/7
					-				╁┈	GAS UNIT	8	—	FROM	М		TO		ROP (F1	/HR)	\dashv		OP Dril		221	1/7
												1	_	\dashv					·	┪		perate E		-	1/7
	al Bl				.00																	perate			1/7
	NG W1	. В	HA WT. 60	70 W		130		ORQU 85	GRI	5,736	TION	1	17	КВ		KB ELEVA 5,753		INTERMEDIA	ATE CS	SG		CASING 328	NE	TE	ASING
	==						<u> </u>	=	<u>"</u>		_			/EYS									_		
МС	7	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+/V	V-	DLS	TOOL	_^	ON	INC	CL.	Α	ZIMUTH	T\	/D	SECT	ION	N+ / S-	E+/W-	DLS	<u>;</u>	TOOL
	+							+-	\dashv		⊩			_										+	
														CTW/	177/	1									
FRO	и	то	HR\$	24 HC	DURS - MID	NIGHT TO	MIDNIC	нт				AILI		CTIV										_	
0:0		5:30	5.50		11" 5N																				
5:3	_	3:30	8.00							, blind	ran	ıs, c	hok	ke & l	kill l	lines, mai	nifold & ke	elly valves	to 5	000	psi. A	nnular 1	o 25	00	osi.
13:3		7:30 8:00	4.00 0.50		direction		s. Kil	1 W/	ВПА								<u>_</u>				 .				
18:0		0:30	2.50	RIH						<u> </u>															
20:3		3:00	2.50	Drill	float c	ollar ce	men	& s	hoe				_	-											
23:0		0:00	1.00	Drill	5828	o 5842											mEN!								
0:0	_															PANT	TITIE!	/ ILIn							
0:0																Ann	10								
0:0															 1								-		\dashv
0:0													_												
0:0																									
0:00				7:00	am Dı	rilling @	0 608	7																	
0:00																									
0:00	_	\dashv																							
															_									_	
Daily	Tota	al	24.00																						$\neg \neg$

							-																
		Engi	neering	& Su	pervisi	on	_	E	XAC	TE	ng	jine	eri	ng, Inc	; .	_		C	918) 5	99-940	0		
Oper	ator:	Wolverin	e G&O C	o of Uta	h, LLC		1	DAI	LY	ORI	LÌ	.IN	GI	REPO	RT		24 hı	rs - :	midniş	ht to m	nidnig	ht	-,
DATE		WELL				CONT	RACT				_			INTY, STATE	SPUD DATE		APIN			SUPER			
01/	06/05 SPUD		IVERINE I			<u> </u>	17	Unit OTAL D	Rig #1		PROC	GRESS	Se	vier, UT	10-Dec	43-0 ROP)41-3		36 RMATION		arren		ylor
	28		Nipple	up 11"	5M sta	ck			5,828			0		0.	.00	#DIV/	01		Arapie	n	6550)' <i> </i> 7	7100'
											ΜU	D DA											
W		VIS.	WL		CK	PH		ND .	SOLID		Ρ\		ΥP	GELS	DEPTH	DATE/TIME	+	LORIE		CALCIUM	MBT	_	ALT PPM
10	.3	45	33.	0 1 2	/32	8.5	<u> </u>	50	3.8		6 Br	T DA	3	2/3	5828	1/6/09:00	1 1/	75,0	00]	1680	##		38,750
BIT :	SIZE	MFG.	TYPE	IADC	SERIA	L NO.		JETS	(1/32nd")	7	IN Di		OUT	FOOTAGE	HOURS	ROP		MTR	RPM	WOB	DU	L CC	NOITION
NO.				CODE	╂			or	TFA			- -		 		#511//		ļ	RT+MT	\	T	В	G
-					┼──	-+		╫				+		 	-	#DIV/0		H		 	┼┤		
 -		-		 	┼	_		+		\dashv				 		#DIV/0		\vdash	 -	 -	+	\dashv	
	_	-+		-	1			十		_		\dashv		1		#DIV/0		Н		 	╅┽	┪	
H							===	HYI	DRAULI	cs			_							SLOV	N PU	VР	
PUMP	MANU	FACTURER	LINER		GAL / ST	K SPA	ч	GPM	AV DP	AV D	- 1	PUMP	T	MTR DIFF	HHF) / IN²	EC	io.		60 spm	80 s	pm	100 spn
NO.	 	42	 	LENGTH	+	10	_	040	 -		+	PRESS.	+-	PRESS.	<u></u>				 	 	 	\dashv	
1 2	 	itional itional	6	8.5 8.5	2.97	10	_	312 312	 		+		╁		 		 -		2	 -	╁╌	\dashv	 -
Both	INC	luunai	1 -	0.5	 	+	_		123	127	,	2200	+		ļ				 - -	ـــــــ	1		
			RILLS																VEC	,			
вотт	MHOLE A	SSEMBLY			O.D.		.D.		FORMATIO	N		MD				LITHOL	OGY						
			ļ	ENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO Arapien Rig No															ι	Init 111			
			ļ			 		╂		-			╀-	 					Cell N			3-64	5-6671
			 			-		<u> </u>						GAS DATA	1					OP Tes		+	1/6
			 			-		801	TOMS UP	TIME		GAS o 25		CONN G	AS	TRIP (AS	\neg		BOP Tes		+	1/6
						 		仁	GAS UNITS			ROM	<u> </u>	SHOWS		ROP (F1	K IEV	ᆀ		OP Dril		+	1/3
			 	_				╫	ONO OHITE	-		<u>tom</u>	†		<u> </u>	NOP (F	(HIK)	-1		perate		≀ar	1/6
																				perate I		-	1/6
Total				.00																perate			1/6
STRING	WI.	BHA WT.	PU W1		SO WT.	ROT. T	ORQU	GR GR	5,736	ION		го кв 17	╆	KB ELEVA 5,753		INTERMEDIA	ATE CS	iG		CASING 328	NE	XT C	ASING
							=		0,.00			RVEY	<u>-</u>	0,700			==			-	느	===	
MD	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/V	v-	DLS	TOOL	MD	Ĭ	INCL.	_	AZIMUTH	TV	D	SECT	ION	N+/S-	E+/W-	DLS		TOOL
					<u> </u>	<u> </u>	4				\downarrow		_					_				\downarrow	
	<u></u>	<u> </u>	ll		<u> </u>	<u> </u>				<u></u> _			<u> </u>							L	<u> </u>		
FROM	то	HRS	24 140	NIDS . MI	ONIGHT TO	MIDNIG	UT.			DA	ΙLΥ	ACT	VIT	Y									
0:00	4:00	4.00			" prote																		
4:00	5:00	1.00			lead wa																		
5:00	6:00	1.00			nt head																		
6:00	8:30	2.50			sks. 5	0-50 p	ooz (eme	nt														
8:30	9:30	1.00		cemer										<u>-</u>									
9:30	16:00								s, cut o	ff													
16:00	19:00 0:00	3.00 5.00			st 9 5/8 1 BOP			ad															
19:00 0:00	0.00	5.00	NO	11 31	IBUP	Stack								a while the	"INTIN	HAL							
0:00														W().T	-MEI	111 1-							
0:00																							
0:00																		_					
0:00																							
0:00		<u> </u>	7:00	am pi	essure	testir	ng B	OPE]
0:00																							
0:00									 -														{
0.00																							
Daily T	otal	24.00																					

		Engi	neering	& Su	pervisi	on _		EXA	C.	T En	gi	nee	rir	ng, Inc	•	_		(918) 5	99-94	00_		
Oper	ator:	Wolverin	e G&O C	o of Uta	h, LLC			ILY	D	RIL	LI			REPOI					midniç	<u></u>		<u> </u>	
	05/05		lverine f			CONTRA	Un	it Rig	#11		OGR			ITY, STATE ier, UT	10-Dec	43-(API 041	300	36] [Oarre	n Na	aylor
DAYS F	27	PRESE	T OPERAT Runni	_	/8 csng	·	IOIAL	5,828	8	PK	OGR	0			.00	#DIV/	0!	1	Arapie	- 1			7100'
						a.i. 1	04445	1-00			_	DAT	_	0510	Lossie				200		li in		
10		vis. 45	33.0	0 2		РН 3.5	0.50		3.8	——	_{РV} 6	Y		GELS 2/3	5828	1/5/10:00	+	75,0	$\overline{}$	CALCIUM 1680	##	+	88,750
									_		_	DATA											
BIT :	SIZE	MFG.	TYPE	CODE	SERIAL	NO.		S (1/32nd' or TFA	")		IN	O	JT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MT	WOE	P	JLL C	ONDITION
																#DIV/0	0!						
																#DIV/(0!						
\Box																#DIV/0	0!						
ot				L	J								لــ		<u> </u>	#DIV/0	<u>)!</u>	<u></u>	L	<u> </u>	Ц.	L	<u> </u>
								YDRAL													W PI		
PUMP NO.	MANUF	ACTURER	LINER	STROK	1	SPM	GPM	AV 0	DP	AV DC	1	PUMP RESS.	1	MTR DIFF PRESS.	HHE	? / IN²	E	CD		60 spi	n 80	spm	100 spm
1	Na	tional	6	8.5	2.97	105	312	1	7		1	-	.,				 	\neg	1		†-		
2	Na	tional	6	8.5	2.97	105	312	:			T					· · · · · · · · · · · · · · · · · · ·			2				
Both					5.94	210	624	12	3	127	2	200											
		D	RILL S1	LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO 1.00 12.250 Arapien Rig No															INF	0			
		SSEMBLY		LENGTH O.D. I.D. FORMATION Mb TVD LITHOLOGY RIG INFO 1.00 12.250 Arapien Rig No																			
12 1/4				1.00 12.250 Arapien Rig No 2.50 8.000 Cell No 918																Unit 111			
Bit sub				2.50 8.000 Cell No 918															8-6	45-6671			
12 1/8	vvatem	nelon mil		2.50 8.000 Cell No. 918															{	12/14			
хо				.00	7.750		- -	<u>оттомs</u> 55			BG G.			CONN G	AS	TRIP C	SAS	\exists				_	1/5
	/8 spira	l wt		.00	7.750		╨				_			SHOWS				\dashv		afety I		19	1/3
	spiral v		789		5.000		┰	GAS U	NUS	-	FRO	,M		ТО		ROP (F1	T/HR)			perate		Rar	1/3
jar	٠, ٠,٠,٠			.00	6.500	<u> </u>	-				_					 -		-1		perate			
Total			1,011		83802						-	\neg								perate			1/4
STRING		BHA WT.	PU WT		SO WT.	ROT. TOR	QUE	SRD. ELEV		ON G	L TO			KB ELEVA		INTERMEDI	ATE C	SG		CASING	1		CASING
150		60	180		120	250	_ <u>_</u> _	5,73	6		17		_	5,753					6	15	<u></u>	58	00
MD	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/W-	DLS	T00	, II	MD S	_	VEYS	_	ZIMUTH	ī\	(D	SECT	rion I	N+ / S-	E+/W	То	e 1	TOOL
		7.2		OLOTION	1 70	2.7,0	<u> </u>	1	1		٣	102.		ZIMOTT	<u>'`</u>		GEO	i i i	1477.35	E . / W	1 -	3	1001
									7					1	· · · · · · · · · · · · · · · · · · ·			7			1	寸	
										DAIL	ΥA	CTIV	ITY										
FROM	TÓ	HRS			DNIGHT TO	MIDNIGHT			_														
0:00	3:00	3.00		to 28					_														
3:00	6:30	3.50			20 to 30	50, PU	single	es to 3	325	5													
6:30	8:30	2.00		to 57		0 0015	311								ALIPIN	HTHE	H						}
8:30 10:30	10:30 11:30	 			6 to 582 s. Up, p			···.						$-\mathbf{c}$	()N+ 1L(FHIN		<u> </u>					
11:30	16:00				ag mini		יוטט								A1.,,								
16:00	18:00	2.00			out asse		6 5/8	3" WP			_												
18:00	19:00	1.00							land	dlina e	aui	ipmer	nt n	ot needed									$\neg \neg$
19:00	22:00	3.00			0 ton cs		_									ety meetir	na. L	Jnit r	ia crev	w & Fr	anks	csn	ia.
22:00	0:00	2.00			5/8" ca												<u></u>						*
0:00																							
0:00																							
0:00																							
0:00		<u> </u>	5:00	:00 A	M ON B	OTTON	1 CIR	C. Rea	ady	to cer	mer	nt											
0:00						·									,								
0:00																						_	
0:00														 -									
Daily T	otal	24.00							_														

		Eng	gineering	g & S:	upervi	sion		·	EXA	C-	T En	gi	nee	rir	ng, Inc.	;.			,	(918) 5	599-9	40()	
	erator:	Wolveri	rine G&O C			;		DA		_			ING	3 R	REPOR	RT				midnig				<u> </u>
DATE 01	1/04/05	WELL 5 Well	/olverine	Feder	ral 17-3	J	ONTRAC		it Rig#	#1°	11	-			NTY, STATE vier, UT	SPUD DATE	1	API# -041-3		36	SUPE		risor arren N	Javlor
	F/ SPUD		ENT OPERAT	TIONS @	MIDNIGHT	r		TOTAL	DEPTH			ROGRE	RESS	~	DRILLII	LING TIME	ROP	,	FOR	RMATION	v .	AUTI	TH. DEPT	тн
	26		PU c	dean	out ass	<u></u>	=	<u></u>	5,828	<u>=</u>			0 D DATA	<u>_</u>	<u> U.</u>).00	#DIV/	0!	<u></u>	Arapie	<u>an 1</u>	<u>—'</u>	6550' /	/ 7100
 _	wt	VIS.	WL		СК	PH	工	SAND	SOL	LIDS		PV	D DATA		GELS	DEPTH	DATE/TIME		HLORID	DES	CALCIUM	JM	мвт.	SALT PPM
	0.1	44	32.	0	2/32	10.5	Ļ	0.50	<u>3</u>	3.8		3	3		2/3	on bank	1/4/09:30	<u></u>	57,00	00	1680	<u>_</u>	5%	
ВІТ	SIZE	MFG.	TYPE	I IADO	- I cer	IIAL NO.	_	IET.	S (1/32nd")	_		BIT	DATA		FOOTAGE	HOURS	ROP		IMTR	R) RPM	I Wo	<u> </u>	7 7011	CONDITION
NO.			ITE	CODE		AL IVO.	1		or TFA			.N			- rounde	noons,				RT+MTF	1	* I	T B	
RR41	12.250	HTC	J 1	427	/ R	Retip	1	18	18	_1	18		4		<u> </u>	<u> </u>	#DIV/		⊥_′	<u> </u>	1		1	1
				+	—		+	+			-+-		+		 '	 	#DIV/(+-'	+	+-		+	
-		-+		+	+		+	-+-	-	_	-	_	+-			 	#DIV/0		+-	 	+-		+	+
=							<u></u>	HY	YDRAUI	一	cs	=						<u></u> -	<u></u>		SL	ᅏ	V PUMF	<u></u>
PUMP		NUFACTURER	R LINER		KE GAL / S	STK S	SPM	GPM		_	AV DC		PUMP	1	MTR DIFF	HHF	IP / IN²	Εſ	CD				80 spm	
NO.		· · · · · · · · · · · · · · · · · · ·	+-	LENGT		+-		1 342	-	-1	 '	PP	PRESS.		PRESS.			+		44				
1 2		National National	6	8.5 8.5			105 105	312		-		+	-			 		+-	/	1 2	+	-		+
Both		Aliona	+-	1 0.0	5.94		210	624		3	127	1/2	2200			 		+-		-	4			
	'		DRILL ST	TRING			<u> </u>	一		=		<u></u>			3EOLOGIC	ė—			_		GEN	JER	EAL INF	FO
		ASSEMBLY	LENGT	тн	Ö.D.	工	1.0.	#	FORMATI	ίΟΝ	工	MŌ	<u>=</u>	<u></u>	TVD		LITHOL	LOGY	<u> </u>	=			INFO	
12 1/4				1.00	12.25			_	Arapie	en										Rig No				Unit 111
Bit su		lon r		5.30	8.00						-		\rightarrow	г—	·····					Cell N				645-6671
12 1/	3 Water	rmelon m	4	5.30	8.00	4		-	OTTOMS U	<u> </u>		BG G/	L		GAS DATA CONN GA		TRIP	 -]		BOP TO			12/14
хо			+	2.00	7.75	50		1	оттомs ui 45	_		BG G/			0	AS	TRIP 0			(Safety			1/4
	5/8 spir	ral wt		0.00	7.75			F	GAS UNI			FROM		=	SHOWS		ROP (F1			1	BOP Dr			1/3
	5" spiral		789	9.00	5.00	70				_		_	\Box						——⊪	II			ipe Ran	1
jar				2.00	6.50	ا ا	~~										<u> </u>		-	I)	<u> </u>		Blind Rai	
	al BHA:	BHA WT.	1,011 PUWI		sowt.	ROT	T. TORC	OUE G	RĎ, ELĒVA	/ATI	ON G	L TO	5 KB		KB ELEVAT	TION	INTERMEDIA	IATE C			Operate CASING		Annular NEXT	r 1/4
	50	75	210		100		320		5,736			17		_	5,753		ſ <u></u>				615	J		5800
						=	_	=		=			VEYS					=	=	_		_	=	
MD	INCL	L. AZIMUTI	TH TVD	SECTIO	N+/S	· E+/	/ W-	DL\$	TOOL	7	MD	IN	INCL.	^	AZIMUTH		VD	SECTI	ION	N+ / S-	E+/W	N-	DLS	TOOL
	+	+	+	 	+	+-	-		+	+	+	_	+		+			-	+	<i></i>	+	+	,——-	+
			نـــــــــــــــــــــــــــــــــــــ							4	DAIL	.Y7	ACTIVI	/ITY								_		
FROM					MIDNIGHT T					_		_		<u> </u>								_		
0:00 5:00					am 3080 ru tight h																			
6:00	-	_			u tignt r am 3167																			
7:00					D Direc				<u>'</u>	_														
11:30			Rig	repair	ir, Diagi	nose p	probl	olem w								of Casper, I						_		
23:30		0 0.50	PU	clean	out as	s. 12	2 1/4	bit, bi	t sub, 1	12	1/8 wa	ater	rmello	on m	nill, xo, 6 j	jts. 6 5/8 S	Spiral wt.	xo, 2:	3 jts	5" sp	iral w	∕t. je	ar. 3 sr	piral wt.
0:00		—	 																					
0:00			 											—										
0:00		+	+							-					-mFII	TH								
0:00		 	 							_		7	M	4	北京	411								
0:00										_			ישם						_					
0:00		<u></u>	I.							_		_		_								_		
0:00			6 ar	ກ. W ຄ	& R @	3100'	<u>/</u>																	
0:00		+	 																					
0:00		+	 																					
Daily		24.00	+				=			=								=					===	
Daliv	lotai	1 24 00																						,

		Engi	neering	& S	upervis	ion		E	XA	C.	T En	gin	eer	ing, Inc	· .				918) 5	99-940)	
Oper	ator:	Wolverin									_			REPO			24 h	rs -	midnig	ht to m	idnig	ht
DATE	100105	WELL	li sasta a F		-1470	CON	TRACT		Died	14 4			ı	UNTY, STATE	SPUD DATE	42.0	ÀPIA		36	SUPERV		Novior
	/03/05 / SPUD	- 1	IVERINE F		AL 17-3 MIDNIGHT	Ш_	1	TOTAL I				OGRE			ING TIME	ROP	<u> </u>		RMATION	AU	TH. DE	
	25		Back re	amir	ıg @ 30	80			5,828				0		.00	#DIV/	0!	<u></u>	Arapie	n	6550	' / 7100'
w	т {	VI\$.	WL		СК	PH	s	AND	sou	IDS		PV	DATA YP	GELS	DEPTH	DATE/TIME	СН	LORI	DES	CALCIUM	мвт	SALT PPM
10	1.1	50	29.8	3	2/32	10.0	0	.50] 3	3.8		6	5	4/5	3172	1/3/10:00	16	33,0	00	1700	##	267,300
					. 1 6550			1000	/4 MO 0 - 485	_			ATA	LEGGYLGE	Lucure		_	Lurin		Luga	Loui	. coupiriou
BIT NO.	SIZE	MFG.	TYPE	COD		IL NO.			(1/32nd") r TFA			N	OUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTR	WOB	T	B G
1			3XS12S	437	1068	3359	22		22	2		852	5579		143.50	12.0		у	150	30/40	4	7 1
6 1	2.250 5	SEC. E	3XS12S	437	1068	3357	24	+	24	2	4 5	579	5828	249	17.00	14.6		У	150	30/40	╁╌┤	
				-				+-	-					 	 	#DIV/0		-	ļ	 	╂─╂	+
==								HY	DRAU		cs	=='						_		SLOV	7 PU	/P
PUMP	MANU	FACTURER	LINER	1	KE GAL / S	TK SF	M	GPM	AV D	_	AV DC	Pυ	- 1	MTR DIFF	ння) / IN ²	EC	20				m 100 spn
NO. 1	Na	itional	6	LENG		10	15	312	┼	\dashv		PRE	SS.	PRESS.			 	-		 	-	+
2		tional	6	8.5				312	┼	7		\vdash	一		 		\vdash	-	2	 	 	
Both					5.94	21	0	624	123		127	22	00									
								Ī		_												NFO
		SSEMBLY		_			I.D.					MD		TVD		LITHOL	OGY	\dashv	Die Ne		INFO	Linia dd
12 1/4 Stabil		eg. Moto		22.00 7.750 Cell No. 918-6															Unit 111 3-645-667			
3 pt.	200 1 0	og. mote		.00	7.75			1			_		十					_		OP Tes		12/14
	ional as	S.	78	.00	7.75	0		80	TOMS	PI	IME)	G GA	S	GAS DATA CONN C	SAS	TRIP	3AS	\equiv	Next E	OP Tes	t	
хо			2	.00	7.75	+		4_	45		1	to 2	5	0 SHOWS		0				afety M		1/3
	/8 spira		180		7.75	+		-	GAS UN	ITS	干	FROM		70		ROP (F	I/HR)	\dashv		OP Drill		1/3
	' spiral v	vt.	789	.00	5.00 6.50	+		- -		_			\dashv							perate F		
jar Tota	BHA:		1,113		0.50	1		╬			-		-					ᅦ		perate E		
STRING	WT.	BHA WT.	PU WT	7	SO WT.	+	TORQ	JE GF	RD. ELEV		ON G	LTOK	В	KB ELEVA	TION	INTERMEDI	ATÉ CS	SG	LAST	CASING		XT CASING
15	<u> </u>	75	210	_1_	100	<u>L:</u>	320	<u> </u>	5,736	_	<u> </u>	17		5,75	<u> </u>			لب	6	15		5800
MD	INCL.	AZIMUTH	TVD	SECTIO	N N+/S-	E+/	w. I	DL\$	TOOL	Т	MD S	URV		AZIMUTH		'D	SECT	ION	N+ / S-	E+/W-	DLS	TOOL
	L					<u></u>			<u> </u>	1					<u> </u>							
FROM	TO TO	HRS	24.40	VIDE A	IIDNIGHT T	5 10510	CUT			_	DAIL	Y AC	TIVIT	Υ								
0:00	0:00	24.00			m 3175			3O. 9	95'	_												
0:00										_						 						
0:00																						
0:00	ļ																					
0:00	 				 -					-												
0:00	 									_					FINE	m ul						
0:00							··			_				<u> </u>		1111						
0:00														AAi		·						
0:00	ļ																					
0:00	ļ	 																				
0:00	 	 								_						···						
0:00																· · · · · · · · · · · · · · · · · · ·						
0:00										_												
0:00																						
0:00												6	Bam. E	Back Rean	1 2986							
Daily 1	otal	24 00	 -																			

		Engi	neering	& Su	pervisio	on `	<u> </u>	Е	XAC	TI	En	gin	eer	ing, Ir	ic.			•	(918) 5	99-9400	,		
Oper	ator:		e G&O C	o of Uta	ih, LLC				LY [DR	<u> IIL</u>			REPO						midnig	ht to m		nt	
	02/05		lverine f			CON		Unit	Rig #1	11			S	evier, UT	10-[Dec	43-0	API# 041-3	3003			irren		ylor
DAYS F	24	PRESEN	TOPERAT	_	июміснт ј @ 317	5	To	OTAL DI	ертн 5,828		PRO	OGRES (ss 0	DF	O.OO		ROP #DIV/()!	i	mation Arapie	1 '	гн. dei 6550		'100'
													DATA										_	
W		VIS.	WL			H	SAI		SOLID			7	ΥP	GELS 5/6	DEP		DATE/TIME		LORIC		CALCIUM	MBT	-	LT PPM
10		49	28.0	<u>, </u>	U32 C	3.3	0.8)U	3.8	<u></u>			ATA	3/6	582	20	1/2/09:00	1 10	30,00	00 1	1720	##		7,300
BIT	SIZE	MFG.	TYPE	IADC	SERIAL	NO.		JETS (1/32nd*)			N J	OUT	FOOTAG	E HOU	RŠ	ROP		MTR	RPM	WOB	DUL	L CO	NDITION
NO.				CODE		_			TFA		+-				 				\vdash	RT+MTR	+	1	B	G
			3XS12S	437	10683	-	22			22		352	557				12.0		У	150	30/40	4	7	
6 12	2.250 S	EC. E	3XS12S	437	10683	35/	24	+-	24 2	24	1 55	79	582	8 249	17.0	00	14.6 #DIV/0		У	150	30/40	$\vdash \vdash$	+	
$\vdash \vdash$		-+			 			╁╴			╁╌	-					#DIV/0		\vdash		 	H	\dashv	
岸							==	НАГ	RAUL	CS						_					SLOV	/ PI II	/ID	
PUMP	MANUF	ACTURER	LINER	STROKE	GAL / STI	SP	M I	GPM	AV DP	_	V DC	PUI	MP	MTR DIFF	T	нн	2 / IN2	ΕC	a:					100 spm
NO.	 			LENGTH	+	ļ				-		PRE	SS.	PRESS.									\dashv	
1		tional	6	8.5	2.97	10	_	312		 								ļ		1	ļ		4	
2	Na	tional	6	8.5	2.97	10	-	312		├-		_	_					├		2	L	L		
Both	<u></u>				5.94	21	0 0	524	123	1	27	220	00				<u></u>	<u> </u>	<u>ا</u>				_	
BOTT	OMHOLE A		RILL ST		O.D.		I.D.		ORMATIC	N.		MD		GEOLO	VD VD		LITHOL	OGY	-		GENER	AL II	IFO	·
12 1/4		JOE MOE !	 	.00	12.250	_		╬┈	Arapier		\vdash		_						\neg	Rig No			Ú	nit 111
Stabili	zed 1 de	eg. Moto	22	.00	7.750						1									Cell N	(918	-64	5-6671
3 pt.			9	.00	7.750															Last B	OP Tes	t	\Box	12/14
Directi	onal as	ş	78	.00	7.750			вот	TOMS UP	TIME	B	G GAS	\$	GAS DAT	N GAS		TRIP G	AS		Next E	OP Tes	t	I	
хо			2	.00	7.750			↓_	45		1 1	to 2	5	SHOWS	0		0		_	Last S	afety M	eting	4	12/14
	/8 spira		180	.00	7.750				GAS UNIT	S		ROM	—		0	\Box	ROP (FT	/HR)	#	Last B	OP Drill		1	12/14
26 - 5'	spiral v	vt.	789		5.000			-			<u> </u>		4			_					perate F		_	
jar	54.4			.00[6.500			╂			├		-								perate E		-	
Total STRING		SHA WT.	1,113 PU WT		SO WT.	ROT.	TORQUI	GRI	D. ELEVAT	ION	Gi	TO K	-	KB ELE	VATION		INTERMEDIA	ATE CS	ic		perate /			12/14 ASING
15)	75	210		100	3	20		5,736			17		5,	753					6	15		580)0
										_	รเ	JRV	EYS										_	
MD	INCL.	AZIMUTH		SECTION		E+ /\		DLS	TOOL		AD.	INC	ž.,	AZIMUTH			/D	SECT	ION	N+ / S-	E+/W-	DLS	Ŧ	TOOL
5,576	23.90	224.60	5109	1963	-1400	-137	4"	.68	MWD	5.7	773	22.	70	227.40	+	5 2	00			4454	-1431	4 2/	+	A AVA/ID
	<u> </u>				<u> </u>											52	90	****	-""	-1454	-1431	1.20	<u>'</u>	MVVD
FROM	TO	HRS	24 HC	URS - MI	DNIGHT TO	MIDNIC	HT.				AIL	AU	TIVI											
0:00	1:30	1.50	Pun	np sw	eep & di	y jot																		
1:30	6:00	4.50			csg sho	e @	615',	norr	nal dra	g														
6:00	8:00	2.00		to 33]
8:00	10:30	2.50			5 to 336		0.4.	10.55																
10:30	0:00	13.50	Bac	kream	1 3320 u	p to	3175	(145	"					 										
0:00																	14 PP							
0:00											—	—		7/	niCil	H	NHAL	<u> </u>						
0:00										-				-t	1/41-11	سال	111-			•		—	_	
0:00										-														
0:00										_														\neg
0:00																								
0:00																								
0:00																								
0:00											<u> </u>													
0:00			8	Post	recei		2162				—													
0.00			oam	. Daci	reamin	y W	3103	<u> </u>	·								•							{
Daily T	otal	24.00	·· ···											······································									_	

		Eng	ineering	& Su	pervisi	on `		E	XAC	TE	ng	jine	eri	ng, Inc	·			(!	918) 5	99-940)	
Opera	ator:	Wolveri	ne G&O C	o of Ut	ah, LLC		Ε	A	ILY [DR	ILL	IN	GI	REPO	RT	· · · · · ·	24 hr	'S - I	nidnig	ht to m	idnight	
DATE 01/	01/05	WELL	olverine f	edera	ıl 17-3	CON	TRACTO		Rig #1	11		T		NTY, STATE vier, UT	SPUD DATE	1	APW 041-3		16	SUPERV	isor arren N	laylor
DAYS F	SPUD 23	PRESE	NT OPERAT	-	MIDNIGHT Viper trip	<u> </u>	7	OTAL E	5,828		PROC	3RESS 249	1	1	ING TIME	ROP 14.6		1	MATION Arapie	ı	TH. DEPT 6550' /	
			On to		ripor un				0,020		MU	D DA	_			74.0			паріс	<u>'' </u>		
w		VIS.	WL			PH	SA		SOLID		PV	_	ΥP	GELS	DEPTH	DATE/TIME	+	LORID		CALCIUM	1	SALT PPM
10.	2 1	48	26.0	0 [2/32	8.5	0.	50	4.0		6		5	4/5	5630	1/1/10:00	16	0,00	00	2100	## :	267,300
BIT S	SIZE	MFG.	TYPE	IADC	SERIAL	NO.		JETS	(1/32nd*)		N BI	TDA	OUT	FOOTAGE	HOURS	ROP		MTR	RPM	WOB	DULL	CONDITION
NO.				CODE				_	TFA			_		1700	140.50	10.0		\vdash	RT+MTF		T B	G
			BXS12S BXS12S	437	10683		22	+		22	385 557		5579 5828	1722 249	143.50 17.00	12.0 14.6		Y V	150 150	30/40	4 7	 '
- 1	.230	320. 2	.BAG120	437	1,000	337		†		-	337	3	0020	248	17.00	#DIV/0)!		150	30/40	╂═┼═	 -
																#DIV/0)!					
								HY	DRAULI	cs										SLOV	V PUMI	5
PUMP NO.	MAN	JFACTURER	LINER	STROK	E GAL / ST	K SPI	М	GPM	AV DP	AV		PUMP PRESS		MTR DIFF PRESS.	нн	P/IN ²	EC	D	-	60 spm	80 spm	100 spm
1	N	ational	6	8.5	2.97	10	5	312											_ 1			
2	N	ational	6	8.5	2.97	10	5	312					Ţ						2			
Both	<u> </u>				5.94	21	0 0	624	123	12	7	2200	<u></u>		L		<u> </u>					
POTT	MUOLE		DRILL ST				10	I	EORMATIO			MD.	_~	GEOLOGIC		LITTO	OOV			GENER		0
12 1/4		ASSEMBLI					1.10.	┰		-		MD	+-	170		LITHOL	OGT	-	Ria No		INFO	Unit 111
Stabiliz	zed 1	eg. Motor 22.00 7.750 Cell Nt 918-64 9.00 7.750 Last BOP Test															345-6671					
3 pt.			9	.00	7.750					\Box			\prod	A. A. A. Y.					Last B	OP Tes	t	12/14
Direction	onal a	SS	 	.00	7.750	+		BOT	TOMS UP	TIME		GAS	T	GAS DATA CONN G	AS	TRIP	AS	#	Next E	OP Tes	it	
XO 6 - 6 5/	(9 cpir	al sed	180	.00	7.750 7.750			Ł	45			o 25	<u></u>	0 SHOWS		0		— -		afety M		12/14
26 - 5"			789		5.000			-	GAS UNITS	1	FR	KOM	+	10		ROP (F1	/HR)	-		OP Drill perate F		12/14
jar			+	.00	6.500					寸			_	<u>-</u>				-1		perate E		
Total		BHA WT.	1,113		SO WT.	5.04	TORQUI				<u> </u>	- A - I - A								perate /		
150		75	210		100		20		5,736	ION		го кв 17	┼┈	KB ELEVA 5,753		INTERMEDIA	ATE CS	۱		ASING 15		CASING 800
							==					RVEY	/S									
MD	INCL.	AZIMUTI	+	SECTION	 	E+/V		DLS	TOOL	MD	1	INCL.		AZIMUTH	T	VD	SECTI	ON	N+ / S-	É+ / W-	DLS	TOOL
5,576	23.90	224.60	5109	1963	-1400	-137	7 0	.68	MWD	-	-	20.70	 	007.40							4.00	
							Щ.					22.70 ACT		227.40	52	90	####	##	-1454	-1431	1.20	MWD
FROM	TO	HRS	24 HO	URS - MI	DNIGHT TO	MIDNIC	SHT				AIL, I	ACT	VIII			-					· · · · · · · · · · · · · · · · · · ·	
0:00	1:00				30 to 19	960																
1:00	2:30			to 30		772																
2:30 3:30	3:30 4:30	1.00		to 54	50 to 42 96	2/3			·····						·							
4:30	6:00	1.50			96 to 55	579					-											
6:00	22:00	16.00			vey 557		5815									1417						
22:00	22:30			servic										PUN	EIDE	MILE						
22:30	23:30				vey 581		5828							\V I	II IN	. • •	<u>.</u>					
0:00	0:00	0.50	CIFC	. rur \	viper tri	ν																
0:00		L	<u></u>																			
0:00																						
0:00																						
0:00			L																			
0:00																						
0:00		 	6am	RIH.	Tripped	out t	o sho	e wi	iper trip	look	ced o	pood	<u></u> -									
											3											
Daily To	otal	24.00	L																			

		Eng	ineerin	g & S	upervis	ion		E	XAC	T	En	gin	eer	ing, Inc	;.			(918) 5	99-940	0		
Ope	ator:	Wolver	ne G&O (Co of L	Jtah, LLC				LY	DF	RIL			REPO					midnig	tto m		ght	
DATE	124 104	WELL	-1		17 1	CON	TRĂĊTO		Dia #4	(44				INTY, STATE	SPUD DATE	Į.	APM		26	SUPER		. NI	
	/31/04 / SPUD				ral 17-3 MIDNIGHT		Ť	OTAL D	Rig #1	111	PR	OGRES		vier, UT	10-Dec	43-0 ROP)41-3		RMATION		arrei ITH. D		aylor
	22		Trip	in hol	e, Bit trip	<u> </u>			5,579		<u> </u>	10	01] 9	.00	11.2		<u>L</u>	Arapie	n	655	0' / '	7100'
												_	DATA										
		VIS.	26		CK 2/20	PH		ND	SOLI		_	~	YP	GELS	DEPTH	DATE/TIME	+	LORID		CALCIUM	MBT		ALT PPM
	.9	46		.4	2/32	10.5		r	4.			6	ATA	5/7	5385	12/30/17:45	1 10	30,00	00	2000	<u> </u>		67,300
BIT	SIZE	MFG.	TYPE	IAD	C SERIA	L NO.		JETS	(1/32nd°)			N I	OUT	FOOTAGE	HOURS	ROP		MTR	RPM	WOB	DL	LL CO	ONDITION
NO.				COL				$\overline{}$	TFA		┼_	_			 -	ļ		\vdash	RT+MTF	 	丁	В	G
-			BXS129	_		3359	22	+-		22	_	352	5579	1722	143.50	12.0		У	150	30/40	4	7	
6 1	2.250	SEC. E	BXS125	43	7		24	+-	24	24	155	579		 	 	#DIV/0		-		} -	+-		
-				+				╁			+	-		 	 	#DIV/0				╂	+	\dashv	
岸								HAI	DRAUL	ice.						#81470				SLOV	V BI	МР	
PUMP	MANU	FACTURE	LINER	STRO	KE GAL / ST	K SP	vi T	GPM	AV DP		V DC	PU	MP]	MTR DIFF	НН	P / IN ²	EC	,D			_	_	100 spm
NO.			 	LENG	тн	↓	_		L	╀-		PRE	ss.	PRESS.	ļ							\Box	
1		tional	6	8.5		10	_	312	 	╀		<u> </u>					<u> </u>	_	1	ļ	-	\dashv	
2	+	itional	6	8.5		10		312	 	+-		-	_		 		-		2	<u> </u>	<u> </u>	Ц	
Both					5.94	21	0	624	123	<u> </u>	27	220			<u> </u>		<u> </u>						
BOTZ	OMHOLE		DRILL S		G 0.D.	1	I.D.	╂-,	FORMATIO	NC		MD		GEOLOGIC TVD		LITHOL	OGY	_		GENER	INFO	NF(<u> </u>
12 1/4				1.00	12.250			-11	Arapie		一		十						Rig No				Jnit 111
Stabil	zed 1 d	eg. Mot	or 2	2.00	7.750														Cell N	(91	8-64	45-6671
3 pt.				9.00	7.750														Last B	OP Tes	t		12/14
Direct	ional as	s.	7	8.00	7.750	+		BOT	TOMS UP	TIME	B	G GAS	3	GAS DATA CONN C	SAS	TRIP	AS		Next E	OP Tes	st		
хо			+	2.00	7.750	+		╂	45		1	to 2	5	0 SHOWS		0		_#		afety M		9	12/14
	/8 spira		+	0.00	7.750	+		F	GAS UNIT	S	F	ROM	\mp	10		ROP (FI	/HR)			OP Drill		-	12/14
	spiral '	Mt.	 	9.00 2.00	5.000 6.500	+		╫┈			├									perate F		_	
jar Tota	BHA:		1,11:		0.500	' 		╟			├-									perate E		_	12/14
STRING		BHA WT.	PUW		so wr.	ROT.	ORQU	GR	D. ELEVA	TION	GL	. TO K	В	KB ELEVA	TION	INTERMEDIA	TE CS			CASING			ASING
15	0	75	210		100	3	20	1	5,736		<u> </u>	17		5,753	3]				6	15	<u> </u>	580	00
												JRV											
MD	INCL.	AZIMUT	TVD	SECTION	ON N+/S-	E+/\	<u>v- </u>	DLS	TOOL	<u> </u>	MD	INCL		AZIMUTH	T	/D	SECT	ION	N+ / S-	E+ / W-	DL	+	TOOL
	†	†	†	_			+			╟─	一		+					十				\dashv	-
==									*		ΔΙΙ	ZAC	TIVIT	<u> </u>				_					===
FROM	to	HRS	24 H	OURS - I	MIDNIGHT TO	MIDNIC	НТ							<u> </u>								_	
0:00	9:00	9.00			urveys 54		557	9															
9:00	9:30	0.50			mp dry jo																		
9:30	18:00		PO	OH fo	or bit. Tig	nt @	3160), 28	00 & 1	810	. Ha	d to	back	ream 1810	up to 168	30							
18:00 19:30				ange I to si	bit, chec	k mol	or, te	St M	WU														{
21:00	·	-			ng line																		
22:30	0:00	1.50	RIF																				
0:00										•						1							
0:00															ITINE	UTIAT							
0:00										_		_			NFIDE	MINA							
0:00	ļ	 -			 -														-				
0:00		 -	<u> </u>																				
0:00			6 6	m dell	ling 5585													-					
0:00	 		<u>o al</u>	n util	my 2265	,				—						 -							
0:00		 _	l																				
0:00																				 ·			
										_										···			$\neg \neg$
Daily 1	otal	24 00													· · · · · · · · · · · · · · · · · · ·								

		Engi	neering	& St	ıpervisi	on \	_	E	KAC	TE	ng	ine	eri	ng, Inc	•			(918) 5	99-940	0		
Oper	ator:	Wolverin	e G&O C	o of Ut	ah, LLC			All	. Y [OR	L	_IN	Ğ I	REPO	RT		24 h	rs -	midnig			ght	
DATE 12	/30/04	WELL	lverine l	Federa	ai 17-3	CONT	RACTO		Rig #1	11				NTY, STATE vier, UT	SPUD DATE	43-0	АРМ 041-3		36	SUPER		ı Na	ylor
	7 SPUD 21	PRESE	NT OPERAT	IONS @		·!	TO	TAL DE	ртн ,478		PRO	GRESS 300		DRILL	ING TIME 3.50	ROP 12.8		FOF	RMATION Arapie	AU	TH. D	PTH	
	<u> </u>			KILL	ing_	==	_ _		,470		MC	JD DA			5.50	12.0		<u></u>	Alapie	111	000	-	7 100
		VIS.	WL			РH	SAN	$\overline{}$	SOLID	$\overline{}$	P	/	ΥP	GELS	DEPTH	DATE/TIME	+-	LORIC		CALCIUM	мвт	_	ALT PPM
<u></u>	9 [46	26.4	4	2/32 1	0.5	tr		4.0		6	T DA	6	5/7	5385	12/30/17:45	16	60,0	00	2000	<u> </u>		67,300
BIT	SIZE	MFG.	TYPE	IADC		NO.		JETS (1	(32nd*)	7	DI IA		OUT	FOOTAGE	HOURS	ROP		MTR		WOB	DL	LL C	NOITION
NO. 5 1	2.250	SEC. E	BXS12S	437		250	22	or 1		22	38	<u> </u>		1626	121.00	13.4		۲	150	30/40	T	В	G
131	2.250 3	SEC. EI	BAS 123	437	10003	339	22				30:	32 J		1020	121.00	#DIV/0)1	У	150	30/40	+-		
																#DIV/0							
									\perp							#D!V/0)!						
					,			_	RAUL											SLOV			
PUMP NO.	MANU	FACTURER	LINER	STROK	E GAL / ST	SPM	' °	PM	AV DP	AVI		PUMP PRESS		MTR DIFF PRESS.) HHI	> / 1N2	EC	O;	-	60 spm	80 5	pm	100 spm
1	Na	tional	6	8.5	2.97	105	5 3	12					I						1				
2	Na	tional	6	8.5	2.97	105	3	12					\perp					\Box	2				
Both	<u> </u>		<u></u>	L	5.94	210) 6	24	123	12	7	2200			<u> </u>		<u> </u>		<u> </u>				
BOTT	OMHOLE !	C ASSEMBLY	RILL ST		O.D.	1	D.	F/	RMATIO	i I		MD	(GEOLOGI(LITHOL	ôôv	\rightrightarrows		GENER	AL	NF()
12 1/4		TODE III OCT	 	.00	12.250	-	<u></u>	 	rapier				T				-	-	Rig No		, <u>.</u>	i	Jnit 111
Stabil	zed 1 d	eg. Moto	22	2.00	7.750														Cell No	(91	8-64	15-6671
3 pt.				.00	7.750	-				\perp				GAS DATA				_	Last B	OP Tes	t		12/14
	ional as	s		1.00	7.750	+		вотт	OMS UP	TIME		GAS	F	CONN	GAS .	TRIP	AS	켁		OP Tes		4	
XO	/9 enire	Lud	180	.00	7.750 7.750				45			o 25	<u> </u>	0 shows		0		_		afety M		9	12/14
	/8 spira ' spiral v		789		5.000			G	AS UNITS	-	Fi	ROM	\vdash	10		ROP (F1	/HR)	\dashv		OP Dril		221	12/14
jar	opu.		 	.00	6.500			_					†	- 2. 1 2.				╢		perate I		$\overline{}$	
	BHA:		1,113																	perate.			
STRING 15		вна wт. 75	210		50 WT.	ROT. T			ELEVAT 5,736	ION		то кв 17	╁╌	KB ELÉVA 5,753		INTERMEDIA	ATE CS	<u>·</u> G		CASING 15	N	58 ⁰	ASING
							<u> </u>					RVEY	<u>'</u>								<u> </u>		
MO	INCL.	AZIMUTH		SECTIO		E+/W			TOOL	MD		INCL.		AZIMUTH	T	/D	SECT	ION	N+/S-	E+ / W-	DL	S	TOOL
5,208		225.10		1806		-1266			MWD		+		├					-				4	MWD
5,453	24.20	1226.50	4996	1912	-1365	-1341] 7.	88 1	MWD			787	T / Tex	,				<u> </u>			_	_	MWD
FROM	ŤO	HRS	24 HC	URS - M	IDNIGHT TO	MIDNIG	нт			UP	ULT	ACT	VIII										
0:00	9:30	9.50			rveys 51	78 to	5294	<u> </u>															
9:30	10:00			servi																			
10:00 0:00	0:00	14.00	Drill	& su	rveys 52	294 - 5	5478																{
0:00	 	 								-													
0:00											_											_	
0:00																							
0:00	<u> </u>				<u> </u>											THE							
0:00	<u> </u>												-	- 00N	EllFl	HIP							
0:00	ļ					 -								_VVI	II IN -								
0:00																							{
0:00											_											_	
0:00																							
0:00			6am	Drilli	ng @ 55	60																	
0:00		 																					
0.00																							
Daily 1	otal	24.00					-																

		Engi	neering	& St	ıpervisi	on		E	XAC	T	En	gin	neer	ing, In	c.			(918) 5	99-940	0		
<u> </u>	ator:		e G&O C	o of Ut	ah, LLC				ILY	D	RIL	LII		REPO					midnig	t to m			
DATE 12	29/04	WELL	lverine f	eder	al 17-3	CON	TRAC		Rig#	111	1		i	UNTY, STATE OVIET, UT	SPUD DAT		АРН 3-1041		36	SUPERI			aylor
DAYS	/ SPUD	PRESE	NT OPERAT	_				TOTAL C	DEPTH			OGRE	SS	DR	ILLING TIME	ROP		FOR	RMATION	AU	ITH. C	EPTH	1
<u> </u>	20	<u> </u>		RILL	ING			==	5,178				09 DATA		20.50	10.2	<u>'</u>	<u>_</u>	Arapie	n	055	0.7	7100'
w	7	VIS.	WL	I	СК	PH	s	AND	SOLI	DS %		PV	YP	GELS	DEPTH	DATE/TIME	СН	LORI	DES	CALCIUM	мвт	5	ALT PPM
10	.3	45	28.6	5	2/32 1	0.0	0	.50	4.	.5		5	4	3/4	5080	12/29/9:15	16	64,0	00	2000	L	2	40,000
BIT	SIZE	MFG. (TYPE	IADO	SERIAL	NO.		IFTS	(1/32nd*)	_		SIT D	ATA OUT] FOOTAG	E HOURS	J ROP		MTR	RPM	WOB	Libi	ii c	ONDITION
NO.				CODE	<u> </u>			or	TFA		_ _			<u> </u>		 			RT+MTF	<u> </u>	丁	В	G
5 1:	2.250 5	SEC. E	BXS12S	437	10683	359	22		22	22	38	852		1326	97.50	13.6		У	150	30/40	1	1	1
\vdash				 	+			╁			+	ᅱ				#DIV/		+-	ļ	┧	╁╴	-	
	_				 			+			+	\neg		1		#DIV/		\vdash		 	 		
								HY	DRAUL	JC:	s									SLOV	V PL	MP	
PUMP NO.	MANU	FACTURER	LINER	STROK	E GAL / STI	K SP	М	GPM	AV DP	Т	AV DC	PUI		MTR DIFF PRESS.	н	IP / IN²	EC	CD		60 spm	80	spm	100 spm
1	Na	tional	6	6 8.5 2.97 105 312																			
2	Na	tional	6	8.5	2.97	10	5	312		1									2				
Both	<u> </u>				5.94	21	0	624	123	\perp	127	22	00]						
9017	OMBOLE /	C SSEMBLY	RILL ST		O.D.	1	I.D.	Ţ	FORMATI	ON.		MD		GEOLOG	VD VD	LITHO	OOV			GENER	AL		0
12 1/4		OSEMOE!	 	.00	12.250	₩	1.0.	╁	Arapie		十	- MD		·	<u> </u>	Linoi	2001	ᅦ	Rig No		INFO		Unit 111
Stabili	zed 1 d	eg. Moto	22	.00	7.750														Cell N	(91	8-6	45-6671
3 pt.				.00	7.750			-						GAS DATA	·			_	Last E	OP Tes	it		12/14
	onal as	S		.00	7.750			ВО	TOMS UP	TIN	\neg	G GAS		CON	GAS	TRIP		듸		OP Tes		_	40144
XO 6 - 6 5	/8 spira	l wt	180	.00	7.750 7.750			1=	45 GAS UNIT	-		to 2		SHOWS	•	0				afety M		g	12/14
	spiral v		789		5.000			╁	GAS CITI	-	+	FROM		,	<u> </u>	ROP (F	1/HK)			perate F		Rar	12,114
jar			32	.00	6.500						工		\perp						Last O	perate E	3lind	Ra	
Total		BHA WT.	1,113 PU W7		SO WT.	ROT.	TORQ	DE GR	D. ELEVA	AOIT.	N GI	LTOK	<u>_</u>	KB ELE	VATION	INTERMEDI	ATE CS	sG	Last C	perate /			12/14 CASING
140		75	185		110	3	20		5,736		工	17		5,7	53					15		58	00
												URV	_					_					
мо 5,024	28 90	220.70		1720	-1226	-120		DLS 2.01	TOOL MWD	╬╌	MD	INC	L.	AZIMUTH	+	VD	SECT	ION	N+ / S-	E+/W-	DL	s	TOOL MWD
		224.80		1778		_			MWD				\dashv		 		_	\dashv	-		_	┪	MWD
											DAIL	YAC	TIVIT	Y									
FROM	10	HRS			IDNIGHT TO													_				_	
0:00 9:30	9:30 13:00	9.50 3.50			rveys 49 , pulled				0) wor	rk t	bru ti	aht s	ennt (i	D 4280									
13:00	0:00	11.00			rveys 50				9 / 1101		1110 43	91110	300.	<u> </u>				_					
0:00																							
0:00																-							
0:00		1		··																			
0:00																-11							
0:00															Olegi v	AITIN							
0:00														- (1	WEID	Chin							
0:00														<u>y</u>	4								
0:00																 -							
0:00																							
0:00			6am	Drilli	ng @ 52	45																	
0:00																			-				
0:00																							
Daily T	otal	24.00					·			_				 -								-	

-		En	gineering	g & Si	upervisi	on \	_	E	XAC	TE	ngi	inee	riı	ng, Inc				(:	918) 5	99-940	0	
Opera	ator:	Wolve	rine G&O (Co of U	tah, LLC		1	DAI	LY [OR	ILL	ING	F	REPOI	RT		24 hi	rs - 1	midnig	ht to m		1t
DATE 12/	28/04	WELL	Volverine	Feder	al 17-3	CON	TRACT		Rig #1	11				ity, state ier, UT	SPUD DATE 10-Dec	43-0	АРИ 141-3		36		arren	Naylor
DAYS F	SPUD 19	PRE	SENT OPERA	TIONS @			Ť	OTAL D	ертн 4,969		PROGR	RESS 409			ING TIME	ROP 17.4		1	MATION Arapie	1	TH. DEF	тн / 7100'
											MUC	DAT	A									
10.	-	vis. 49	22.		2/32	<i>Р</i> Н 10.5		50	5.8		۶۷ 6	_	/P 5	GELS 4/6	4730	12/28/09:30	_	10RIC		2000	MBT	240,000
10.					2/32	0.5			1 5.6			DAT		4/0	4730	12/26/09.30	1 15	33,00	00 1	2000		240,000
BIT S	SIZE	MFG.	TYPE	COD		L NO.			(1/32nd*) TFA		IN		υT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MTF	WOB		CONDITION
5 12	.250	SEC.	EBXS12S	437	7 1068	3359	22	Ţ	22 2	22	3852	2		1182	77.00	15.4		у	150	30/40	1	1 1
-	-+			┼				+							ļ	#DIV/0 #DIV/0		-		 	\vdash	
+	\dashv			+-	+-			+-				+	-			#DIV/0		Н		 	-	
							==	HYI	DRAULI	cs								닉		SLOV	V PUN	IP I
PUMP NO.	MAN	UFACTURI	R LINER	STRO	KE GAL / ST	K SPI	W	GPM	AV DP	AV	- 1	PUMP RESS.		MTR DIFF PRESS.	ння) IN ²	EC	Ö				m 100 spn
1	N	lational	6	8.5	2.97	10	5	312											1			
2	N	lational	6	8.5	2.97 5.94	10 21	_	312 624	123	42		2200							2		<u> </u>	
Both			DRILL S	TRING			-	024	123	12	1 2	2200	_	EOLOGIC				_		GENER	AT IS	F0
BOTTO	MHOLE	ASSEMBL			O.D.		.D.	╬	FORMATIO	N N	М	5	_	TVD	<u>, </u>	LITHOLO	OGY	┪			INFO	FO
12 1/4	bit			1.00	12.250				Arapier	\Box									Rig No)		Unit 111
Stabiliz	zed 1	deg. Mo	tor 2	2.00	7.750	4		↓_		4			_					_	Cell N			-645-6671
3 pt.				9.00	7.750	+		-						GAS DATA						OP Tes		12/14
Direction	onal a	SS.		8.00	7.750	+		BOT	10MS UP		BG G			CONN G	AS	TRIP G	AS	7		OP Tes		40/44
XO 6 - 6 5/	8 enir	al wt		2.00	7.750 7.750	+		╆	40 min.		1 to			SHOWS		0		-		afety M		12/14
26 - 5"				9.00	5.000	+		╁╴	GAS UNITS	+	FRC	- M		10		ROP (FT	/HR)			perate F		
ar			32	2.00	6.500			1										—(⊦		perate E		
Total			1,113																		Annula	r 12/14
STRING 140		BHA WT. 75	185		so wr.	ROT.	20	⊟ GR	D. ELEVAT 5,736	ION	GL TC	_	_	KB ELEVA 5,753		INTERMEDIA	TE CS	<u>-</u>		CASING 15		T CASING 5800
								<u> </u>		_		VEYS	<u> </u>									
MD	INCL	AZIMU	TH TVD	SECTIO	N N+/S-	E+/V	v-	DLS	TOOL	MD	_	NCL.	_	ZIMUTH	TV	(D	SECT	ION	N+ / S-	E+ / W-	DLS	TOOL
		0 218.		1517		-108	-	2.60	MWD		4	_						4				MWD
4,963	29.7	0 218.8	4560	1691	-1203	-118	8 1	.40	MWD	<u> </u>				1				ᆜ				MWD
FROM	то	HRS	24 H	DURS - N	IIDNIGHT TO	MIDNIG	HT			DA	ILY A	ACTIV	/ITY									
0:00	15:3				rveys 4			5														
15:30	16:0	0.50	Rig	servi	ce																	
16:00	0:00	8.00	Dril	l & su	rveys 48	365 to	496	9														
0:00		 																 -				
0:00		+	+																			
0:00		+	+																			
0:00		<u> </u>	1											* ***								
0:00														الامم	EINEN	TIAL		_				
0:00														CUN	LIDEL	1100		_				
0:00		┼	 																			
0:00		 	 		 -										·					 -		
0:00		 	 																			
0:00		†	6an	n Drilli	ing @ 50	38																
0:00																						
0:00																		_				
1		1	 																			
Daily To	otal	24.00	<u> </u>																			l

		-	Eng	ineeri	ng d	& Sup	ervisi	on	_		EXA	C.	T Er	ıg	jin	eer	ing	, Inc	•	<u> </u>		(918) 5	99-9400	,		
	erato	or: V		ne G&0	Co	of Utal	n, LLC				ILY	<u> </u>	RII	Ĺ	_IN			PO					midnig	ht to mi		jht	
	2/27					ederal		COI	VTRAC	Un	it Rig	#11				Se	vier		SPUD DATE 10-Dec NG TIME	43-0	AP# 041-3	3003	36				aylor
DAY	18		PRES	ENT OPE		RILLIN				TOTAL	4,59	0		RO	GRES:				.50	13.6		1	Arapie				7100'
									_		7				_	ATA									Lunz		ALT DOM
<u> </u>	wt 10.3		vis. 47	+-	WL 9.2			РН 9.5	_	0.50	sc	5.0	_	P\ 6		YP	┿	GELS 5/8	DEPTH 4404	12/27/09:30	_	1.00		2100	мвт		40,000
==	10.3				9.2	1 21	JZ	J	<u> </u>	0.00		5.0		_	T D/		<u>—</u>		1101	1221103.00	1	,,,,				=	
BIT	SIZ	E M	FG.	TYPE	Т	IADC	SERIAL	NO.		JET	5 (1/32nd	°)	T	IN.		OUT	FC	OOTAGE	HOURS	ROP		MTR		WOB			ONDITION
NO.			_		_	CODE			_		or TFA		_	_	_		┿	700	50.50	40.0		.	RT+MTR		T	_	G
5	12.2	50 SI	EC. E	BXS1	2S	437	10683	359	2	2	22		22 (38	52		+-	738	53.50	13.8 #DIV/0		N	50	25/30	1	1	 '
\vdash		+			+		ļ			_					ᆉ		十			#DIV/0	_	-			\vdash	_	
\vdash		+-	-		十		 		\vdash	\dashv		_					+			#DIV/0							
	=									H\	/DRAI	JLI	cs											SLOW	/PU	MP	
PU	WP	MANUFA	ACTURE	R LINI	R	STROKE	GAL / ST	S	РМ	GPM		_	AV DO	1	PUM	IP	MTR	DIFF	нн	P / IN ²	EC	;D		60 spm	80 9	pm	100 spm
NO.				+	-	LENGTH		 						+	PRES	SS.	PRE	ESS.						ļ	<u> </u>		
			ional	6	_	8.5	2.97		05	312				+							 		1 2		 		
2	-	Nat	ional	 6	\dashv	8.5	2.97 5.94	+	05 10	312 624		,	127	+	220							\dashv		<u> </u>	L	_	
Во	tn j			DRILL		NING.	5.94		10 1	024		3	127	_	220		CEC	DLOGIC			<u></u>	_		GENER	λī	NE	
BC	TTOM	HOLE AS			NGTH	_	O.D.	1	I.D.	╅	FORM	ATIO	N		MD	\neg	GEC	TVD		LITHOL	OGY				INFO		
12 1	/4 bi	it			1.	00	12.250				Arap	ien											Rig No)		Į	Unit 111
Stal	oilize	d 1 de	g. Mo	tor	22.	00	7.750																Cell N	<u> </u>	91	8-6	45-6671
3 pt	·			 	9.	00	7.750	-		_ _							75.8	S DATA				_		OP Tes	_	_	12/14
_	ction	al ass			78.		7.750	-		_ 8	OTTOMS				3 GAS			CONN G	AS	TRIP	SAS	=		OP Tes		-	40/44
XO						00	7.750	-		╢	40 n			_	to 25		S	0 HOWS		0				afety M		g	12/14
		spiral			180.0 789.0		7.750 5.000	-		$\dashv \vdash$	GASU	NITS		F	ROM	Ŧ		TO		ROP (F1	/HR)	귀		OP Drill perate F		Bar	12/14
zo - jar	5 S	piral w	ι.	+-	32.0		6.500			╢						+						\dashv		perate E		_	
	tal Bi	HA:		1.	113.0	202000	0.000					_	+			\top						\neg		perate /		-	12/14
STR	ING W		HA WT.	Pl	WT.	3	SO WT.	-	TOR	201	RD. ELE	VAT	ION		TO KE	丰		KB ELEVA	TION	INTERMEDI	ATE CS	sG	LAST	ASING		EXT	CASING
	140	<u>.i</u>	75	1	85		110		320		5,73	36	<u></u>	_	17			5,753					6	15		58	00
М		INCL.	AZIMUT	н туг	. 16	SECTION	N+ / S-	E+	, w. T	DLS	тос	. 1	MD	SU	INCL		A 711	AUTH	701	VD	SECT	ION I	N+ / S-	E+ / W-	DL	e T	TOOL
ML	-	INCL	AZIMUT	7-'	<u> </u>	SECTION	NV / 3-	-57	777	DLS	MW		ML	†	HACE		ALIM	no in		VO	3201	10.14	147.35	2.7,44		Ť	MWD
				1							MW	/D		Ť													MWD
												_	DAI	LY	AC	TIVIT	Υ								_		
FRO		TO	HRS	_			NIGHT TO							_													
0:0		17:00	17.00				veys 42	270	to 44	498																	
17:		17:30	0.50			service	e veys 44	100	- 41	=00				_								_					
17: 0:0		0:00	6.50	+'	1111	or Suiv	veys 44	+90	10 4	390																	
0:0				1-																							
0:0				1										_		_											
0:0																											
0:0	0																										
0:0	_			<u> </u>										_			_	ANE	:IUEN	LIAL							
0:0	_																$-\ell$	<i>IIIU</i> .	INFI	110 -							
0:0																											
0:0				+					-					_													
0:0				┼																							
0:0	_			- 5	am	Drillin	g @ 46	355																			
0:0	_																										
0:0	0													_													
				-																							
Dail	y Tot	tal i	24.00	1.																							

			Engii	neering	& Su	pervisi	on								ng, Inc		<u> </u>		(918) 5	99-940	0	
Ope	rator:	: V	Volverin	e G&O C	of Uta	h, LLC		I	IAC	LY	DR	ILI	_IN	G F	REPO	RT		24 hi	rs -	midnig	ht to m	idnigh	t
DATE			WELL				CON	TRACT	OR					COU	NTY, STATE	SPUD DATE	 	API			SUPERV	ISOR	
12	2/26/0)4	Wo	lverine F	edera	117-3			Unit	Rig #1	111		j	Sev	/ier, UT	10-Dec	43-0	41-3	3003	36	D	arren N	laylor
DAYS	f/ SPUD	5	PRESEN	IT OPERATI	RILLI			Ţ	OTAL DE	РТН .270		PRO	GRESS 94		1	ING TIME	10.4	,	1	RMATION Arapie		TH. DEP	ਸ / 7100′
 =					TAILLI	-				,210		MI)D D/	TΑ	3.	.00	10.4		ــــــــــــــــــــــــــــــــــــــ	Arapie		0550	7 100
	VT	Т	VIS.	WL	<u> </u>	CK	PH	SA	ND	SOLI	os %	P		ΥP	GELS	DEPTH	DATE/TIME	СН	LORIE	ES	CALCIUM	мвт	SALT PPM
10	0.3		40	19.6	3 2	/32	7.5	0.	50	5.	0	7		7	5/7	4270	12/26/08:45	15	53,0	00	2100		245,000
		_										В	T DA	TA				_					
BIT NO.	SIZE	MF	FG.	TYPE	IADC CODE	SERIA	L NO.		JETS (1	i/32nd")		11	<u>' </u>	OUT	FOOTAGE	HOURS	RÓP		MTR	RPM RT+MTF	WOB	DULL 7 E	CONDITION
	2.250	SE	C. EE	3XS12S	437	1068	3359	18	1	$\overline{}$	18	38	52		324	30.00	10.8		N	50	25/30	1 - 1 -	
										\top			7				#DIV/0)!				1 1	1
										$\neg \vdash$			\top				#D!V/0)!					1
																	#DIV/0)					1
									HYD	RAUL	ICS							_			SLOV	V PUM	P
PUMF	MA	NUFA	CTURER	LINER		GAL / ST	K SP	м	GPM	AV DP	AV	OC	PUMP		MTR DIFF	нн	> / IN ²	EC	O.		60 spm	80 spn	100 spm
NO.		Noti	onel	-	LENGTH	 	140	_	212		┼	\dashv	PRESS	4-	PRESS.	ļ		-		-	 		
2		Nati		6	8.5	2.97	10		312 312		+	\dashv		+						2		 	
Both		IVall	Onai		0.5	5.94	21		624	123	1	27	2200	+					\dashv		<u> </u>	L	<u> </u>
500	<u>' </u>			RILLST	DIKIZ	J.54	1 4	<u>م ا</u>		123			2200		EOLOGIC						GENER	AT 15.	
BOT	TÖMHÖL	LE AS	SEMBLY	LENGT		Ó.D.	n	I.D.	F	ORMATIC	ON	_	MD	7	TVD		LITHOL	OGŸ	_			INFO	-0
12 1/	4 bit			1	.00	12.250				Arapie	n									Rig No)		Unit 111
Stabi	ized 1	1 deç	g. Moto	22	.00	7.750								T						Cell N	(918-	645-6671
3 pt.				9	.00	7.750														Last E	OP Tes	t	12/14
Direc	tional	ass.		78	.00	7.750			вот	OMS UP	TIME	BG	GAS		GAS DATA CONN G	AS	TRIP G	AS	\exists	Next E	OP Tes	t	
xo				2	.00	7.750	<u> </u>		╨	40 min		1 (o 25	<u></u>	0		0			Last S	afety M	eeting	12/14
6 - 6	5/8 sp	iral v	wt.	180	.00	7.750	¥		╚	AS UNIT	S	FI	ROM	工	SHOWS		ROP (FT	/HR)	#	Last B	OP Drill		12/14
26 - 5	" spira	al wt	t	789		5.000			Д					 					_#		perate F		
ar				32.	(0.000)	6.500		00400000						ļ							perate E		1
I Ota	BHA		WT.	1,113. PU WT.		SO WT.	ROT.	TORQU	GRD	. ELEVA	rion	GL.	TŌ KB	┼	KB ELEVA	TION	INTERMEDIA	TE CS	.		perate /		12/14 CASING
13	5		75	175		100	3	00		5,736			17		5,753					6	15	5	800
		_										SU	RVE	' S									
MD	INC	_	AZIMUTH		SECTION		E+/\	_	DLS	TOOL	М	D	INCL.		AZIMUTH	T	'D	SECT	ION	N+/S-	E+ / W-	DLS	TOOL
4,045		_	225.10			-886.00				MWD	<u> </u>	-		-					_				MWD
4,228	25.	60 [224.60	3906	*****	-943.00	-974.	00 0	.50	MWD				<u></u>			l				لسيبا		MWD
FROM	TC	, T	HRS	24 HO	IRS - MI	NIGHT TO	MIDNIE	SHT			D.	AILY	ACT	IVITY									
0:00	+	\rightarrow	9.00			to 4270																	
9:00		_	4.00			steera		ss.															
13:00	16:0	00	3.00			t 3 pt. l			& stee	erable	ass												
16:00	_	_	3.50			IWD, h	ad pr	obler	ns wi	th pul	sar.							_					
19:30			3.00		to 418																		
22:30		00	1.50	W &	R 418	30 to 42	270										1100						
0:00	+	\dashv					·									MEIDE	IAITH						
0:00	 														(1)	HLINE	11100						
0:00	+-	+						-								• • •							
0:00	_	+																					
0:00		_																					
0:00	 	\dashv	+													<u>.</u>			_				
0:00	†	+									—												
0:00		7		5am	Drillin	g @ 43	344	·															
0:00		\Box											_						_				
0:00		\Box																					
		\perp																					
Daily	Total		24.00																				

		Eng	ineering	& Su	pervisi	on \	"	E	XAC	TE	Ξης	gin	eeri	ng, Inc	•	_	_	(918) 5	99-940	0	
Oper	ator:		ine G&O C											REPOI		:	24 h	rs - 1	midni	ht to n	nidnigi	t
DATE	105104	WELL		~		CONT	RACT		Di- 44	44				INTY, STATE	SPUD DATE	42.0	AP#			SUPER		lovior
	/25/04 / SPUD		Olverine			<u> </u>	-17	OTAL D	Rig #1	11	PRO	GRES		vier, UT	10-Dec	43-0 ROP	41-3		MATION		arren JTH. DEP	
	16_			RILLI	NG				4,176		<u>L_</u>	20	0	14	.00	14.3		<u>L</u> .	Arapie	en	6550'	/ 7100'
													ATA			·····	·					
W		vis. 39	W.			РH 0.5		75	SOLID		P	`-	YP 6	GELS 5/7	4135	12/25/11:00	-	14,00	-	CALCIUM 2100	мвт	237,600
10	.2	39	36.	<u> </u>	0/32 1	0.5	<u> </u>	75	0.0			 T D/		3//	1 4133	12/25/11:00		14,00	00 1	2100		237,000
1	SIZE	MFG.	TYPE	IADC	SERIA	L NO.			1/32nd*) TFA		"		OUT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MT	WOB		CONDITIO
5 1:	2.250	SEC.	BXS12S		10683	3359	18			18	38	52		324	30.00	10.8		N	50	25/30		
` †"				1				\top						1		#DIV/0	!			1	11	1
\Box																#DIV/0						
														<u></u>	L	#DIV/0	1	Ш		<u> </u>	للل	
				,					DRAUL				·								W PUN	
PUMP NO.	MAN	UFACTURE	R LINER	STROK	E GAL/ST	K SPI	1	GPM	AV DP	AV	oc	PUM	- 1	MTR DIFF PRESS.	нн	P / IN2	EC	CD		60 spr	n 80 sp	n 100 sp
1	N	ational	6	8.5	2.97	10:	5	312					I						1			
2	N	ational	6	8.5	2.97	10:	5	312					\bot						2			
Both	1			<u> </u>	5.94	210	2	624	123	12	27	220	0									
	0.000	40001401	DRILL S			,		T.	FORMATIC			146		GEOLOGIC TVD		UTUOL	200				RAL IN	FO
12 1/4		ASSEMBL	+	1.00	0.b. 12.250	#	.D.	╢	Arapie		-	MD	╅	140		LITHOLO	JGY		Rig N		G INFO	Unit 11
NB 3				0.00	7.750	 		1			_		1						Cell N		918	645-667
nonel	/ 3 pt.		4(0.00	7.750														Last 6	3OP Te	st	12/14
Shock	sub		12	2.00	7.750			ВОТ	TOMS UP	TIME	В	G GAS	7	GAS DATA CONN G	AS	TRIP G	AS		Next	BOP Te	st	
KO				2.00	7.750	 		1_	30 min		1	to 25	Ц_	0 shows		0				Safety N		12/14
	/8 spir		+	0.00	7.750			#	GAS UNIT	5	F	ROM	7	10		ROP (FT	/HR)	7		OP Dri		12/14
26 - 5 ar	' spiral	wt.		2.00	5.000 6.500	+		╬╌					+-					╌╢		perate perate		+
	BHA:		1,065		0.500					-1			+-			·						r 12/14
STRING	-	BHA WT.	PU W		SO WT.	ROT.		GR	D. ELEVAT	NOIT		TO KB	#	KB ELEVA		INTERMEDIA	TE CS	SG	LAST	CASING	NEX	CASING
13	5	75	175		100	3	00	<u> </u>	5,736			17	<u> </u>	5,753					6	15	<u> </u>	800
MO	INCL	AZIMUT	H TVD	SECTION	N+/S-	E+/V	v. 1	DLS	TOOL	М	_	RVE	Y\$	AZIMUTH		/D T	SECT	ION	N+ / S-	E+ / W-	DLS	TOOL
						-	1	-	MWD	_			1				0.0.				1 200	MWD
									MWD				$oxed{\Box}$									MWD
										D,	AJLY	AC	ΙΙΥΙΤ	Υ								
FROM	1:00) 1.00			to 3994		нт															
0:00 1:00	1:30				94 to 3		rag (ත 80	k over	toro	IIIA 4	420										
1:30	8:30				to 4118		-5 \	9			,											
8:30	9:00		W	R 41	18 to 39	980 6	Ok. E	rag														
9:00	13:0				to 4148	3																
13:00				servic											-mFl	-14171						
13:30					Dp up t		8								HUE	TIME					. .	
14:00 14:30					68 to 40				·						** **		-					
20:00					D, still		orkin	g														
20:30					56 to 41																	
22:00	0:00	2.00	Dril	4148	to 4176	<u> </u>																
0:00		 	 				Rea	aming	3768	to 4	148	relie	ved	torque & di	rag back t	o normal.						
0:00	 	┼		Delli:	- C	120																
0:00 0:00		 	nac	י טרווווד	ng @ 42	.00																
0:00		†	 																*			
Daily 1	otal	24.00												 								

		Engi	neering	& Si	pervisio	on 🥆	_	E	KAC	T	Ξnς	gin	ee	rir	ıg, Inc	•			(9	918) 5:	99-940)		
Oper	ator:	Wolverin	e G&O C	o of Ut	ah, LLC		D	All	_Y [)R	ILI				EPOP					nidnig	ht to m		ht	
DATE 12/	24/04	WELL	lverine f	edera	al 17-3	CONTR			Rig #1	11					TY, STATE ier, UT	SPUD DATE 10-Dec	43-0	АРІ# 141-3		16	SUPERV	isor arren	Na	ylor
DAYS F	SPUD	PRESE		_	MIDNIGHT			TAL DE	PTH		PRO	GRES	SS		DRILLI	NG TIME	ROP		l	MATION	AU	TH. DE	PTH	
	15			RILL	ING		<u> </u>	3	,976				DATA		14	.50	6.9			Arapie	n j	oool		7100'
W	rI	VIS.	WL.	\Box	CK	PH	SAN	D	SOLID	S %		ν]	YP	_	GELS	DEPTH	DATE/TIME	СН	LORID	ES	CALCIUM	MBT	SA	ALT PPM
10	1	35	36.0	0	3/32 9	9.5	0.5	0	4.8	3	L	В	7		5/6	3893	12/24/08:45	12	7,00	00	2100		20	9,550
0/21	size I	uro I	TYPE	LIAGO	I SERIAL	NO. I		JETS (1	Māndi)			IT D	ATA		FOOTAGE	HOURS	RÓP		МТР	RPM	I WOB	I BU	1.00	NOITION
NO.	SIZE	MFG.	TYPE	CODE		. NO.		or T			<u> </u>	`				Hours	ROP			RT+MTR		Ŧ	В	G
5 12	.250 5	SEC. E	3XS12S	437	10683	359	18	11	3	18	38	52		_	124	16.00	7.8		N	50	25/30	1	1	
											├	{		-{			#DIV/0		\vdash		 	╁┥	\dashv	
<u>-</u>						-		┼─			 	-				 	#DIV/0		\vdash		 	\vdash	┥	
								HYD	RAUL	cs	<u>—</u>	<u> </u>	=	ᆜ			#51470				SLOV	V PU	WP	
PUMP	MANU	FACTURER	LINER		E GAL / ST	SPM		PM]	AV DP	_	DC	PU	- 1		MTR DIFF	HHI	P / IN²	EC	D.					100 spm
NO.	 	411	6	LENGT 8.5	2.97	110	+-,	27		╀		PRE	SS.	—	PRESS.				}	<u> </u>	 		+	
1 2	+	itional itional	6	8.5 2.97 110 327 2 2 5.94 220 653 123 127 STRING GEOLOGIC GENERAL IN															\dashv					
Both	1	itional	<u> </u>	5.94 220 653 123 127 STRING GEOLOGIC GENERAL IN																				
==			RILL ST	5.94 220 653 123 127															NFC	,				
		SSEMBLY	LENGT	5.94 220 653 123 127														_						
12 1/4		- Mator		5.94 220 653 123 127															Init 111					
	onal as	g. Motor s		.00	7.750					-			+						—⊪		OP Tes		7	12/14
Shock		<u></u>		.00	7.750			BOTT	OMS UP	TIME	 	G GAS	<u> </u>	=	GAS DATA CONN G	AS	TRIPG	AS	╌╢		OP Tes		7	
хо			2	.00	7.750				30 min			to 2			0		0			Last S	afety M	eetin	3	12/14
6 - 6 5	/8 spira	l wt.	180	.00	7.750			G	AS UNIT			ROM	\Box		SHOWS TO		ROP (FT	/HR)	\exists	Last B	OP Drill		\Box	12/14
26 - 5'	spiral v	vt.	789		5.000	 					<u> </u>		-								perate F		-	
jar	DUA			.00	6.500			-		-	 		+								perate E		_	12/14
Total STRING		BHA WT.	1,105 PU WI		SO WT.	ROT. TO	RQUE	GRD	ELEVAT	ЮN	GL	TOK	(8	_	KB ELEVA	TION	INTERMEDIA	TE CS			perate /			ASING
128	3	75	150		115	55	0	<u> </u>	5,736			17			5,753					6	15		580)0
MD	INCL.	AZIMUTH	TVD	SECTIO	N N+/S-	E+/W-		ıs	TOOL	М		INC	EYS		ZIMUTH		vo 1	SECT	1011	N+/S-	E+ / W-	DL.		TOOL
MU	INCL.	AZIMUTH	146	SECTIO	N N 7 3-	EV / W	1		MWD	<u>^-</u>	-	INCI	+	^	ZIMOTH	<u></u>	, o	SECT		N+75-	E474V-	DE	_	MWD
									MWD		\Box													MWD
										D	AILY	AC	ΙVIT	ΙΤΥ			·							
FROM 0:00	4:00	4.00	24 HC		IDNIGHT TO	MIDNIGH	lŤ.																	
4:00	6:00	2.00			780 to 38	376																		-
6:00	10:30				to 3903																			
10:30	11:00				ıiled 80k		sting	wt. \	// & R	39	03 t	o 38	833											
11:00		+			to 3934													_						
14:30 16:30	16:30 17:00			servi	34 to 38	570 Tig	ont, p	ulling	g 70 to	08 c	<u>к. О</u>	ver					-(171 <u>)</u>	1-						
	21:00				to 3964											WEID	 N I P	一						
21:00	21:30				64 to 39		rag s	till @	70 to	801	 k. Oʻ	ver	strin	a w	/r - 6/	7111 In								
21:30	0:00	2.50			to 3976																			
0:00												_					-							
0:00																								
0:00	<u> </u>																							
0:00		 										—												
0:00																								
0:00																								
Daily T		24.00																						

		Engl	neering	& Sup	ervisio	on 🥄	_	E	XAC	TE	ng	inee	rir	ng, Inc	•	<u> </u>		(9	18) 5	99-940	0	
Operato	or: \	Wolverin	e G&O C	o of Utah	1, LLC			Al	LY)R	ILL	ING	F	REPOR	रा		24 hr	's - r	nidnig	ht to m	idnigh	nt
DATE	10.4	WELL		- 4 1	47.0	CONT	RACTO		Di- #4	4.4		!		TY, STATE	SPUD DATE	42.0	API#			SUPER		Maylor
12/23 DAYS F/ SP			IVERINE F			1		OTAL D	Rig #1	11	PROG	RESS	Sev	ier, UT	10-Dec	43-0 ROP	41-3		MATION		TH. DEP	Naylor тн
14	}	<u> </u>	Tı	rip in ho	ole		丄	3	3,876		Ĺ	24		1.	50	16.0			\rapie	<u>n </u>	6550'	/ 7100'
												D DAT	_								INV-	
10.1		VIS. 35	42.0			PH 3.0	0.5		SOLID 5.3	_	PV 5		γ 7	GELS 4/6	3857	12/23/12:20	-	0.00		2000	MBT	183,150
					<u> </u>							T DAT	A						<u> </u>			
BIT SIZE	E N	AFG.	TYPE	IADC	SERIAL	NO.			1/32nd") TFA		IN	0	ÚΤ	FOOTAGE	HÓURS	ROP		MTR	RPM RT+MTF	WOB		CONDITION
5 12.25	50 S	EC. EI	3XS12S	437	10683	359	18	$\overline{}$		18	385	2 38	76	24	1.50	16.0		у	150	25/30	+	1 1
																#DIV/0	!					
	4	-			<u> </u>			_					_			#DIV/0		\sqcup		<u> </u>	1-1-	
					<u> </u>										<u></u>	#DIV/0		ᆜ				
PUMP (MANUE	ACTURER	LINER	STROKE	GAL / STR	SPM		HYE	RAUL.	CS	рсΙ	PUMP	_	MTR DIFF	ННЕ	7 / IN ²	EC	:D			V PUM	m 100 spr
NO.				LENGTH								PRESS.		PRESS.								
1		ional	6	8.5	2.97	110		327		<u> </u>	-										ļ	
2 Both	Nat	tional	6	8.5	2.97 5.94	220	-	327 353	123	12	,							{	2	l	<u> </u>	
Bour I		DRILL STRING GEOLOGIC GENERAL INFO ASSEMBLY LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIGINFO 1.00 12.250 Arapien Rig No Ur															ΕO					
воттоми	HÖLÉ AS	E ASSEMBLY LENGTH O.D. I.D. FÖRMATION MD TVD LITHOLOGY RIG INFO 1.00 12.250 Arapien Rig No Ur leg. Motor 22.00 7.750 Cell Nc 918-645																				
12 1/4 bit	HOLE ASSEMBLY LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIGINFO it 1.00 12.250 Arapien Rig No Ur 75 deg. Motor 22.00 7.750 Cell Nc 918-645 hal ass. 67.00 7.750 Last BOP Test															Unit 11						
	bit 1.00 12.250 Arapien Rig No Ut 1.75 deg. Motor 22.00 7.750 Cell Nc 918-649 onal ass. 67.00 7.750 Last BOP Test															12/14						
Shock su	1.75 deg. Motor 22.00 7.750 Cell Nc 918-645															12/14						
хо	onal ass. 67.00 7.750 Last BOP Test 1 sub 12.00 7.750 BOTTOMS UP TIME BG GAS CONN GAS TRIP GAS Next BOP Test Next BOP Test 1 2.00 7.750 30 min. 1 to 25 0 0 Last Safety Meeting 1															12/14						
5 - 6 5/8 s	Construction Cons															12/14						
26 - 5" sp	oiral w	rt.	789		5.000			↓		\dashv								— r		perate l		
ar Total B⊦	JA.			.00	6.500			∦		-+								—()		perate l		
STRING WT		HA WT.	PUWI		owr.	ROY. T	ORQUI	GRI	. ELEVAT	ION	GL T	го кв		KB ELEVA	TION	INTERMEDIA	TE CS					T CASING
128	Щ_	75	150		115	5	50		5,736					5,753	1			<u> </u>	6	15		5800
MD I	INCL.	BHA WT. PU WT. SO WT. ROY. TORQUE GRD. ELEVATION KB ELEVATION INTERMEDIATE CSG LAST CASING NEXT CA 75 150 115 550 5,738 17 5,753 615 580 SURVEYS															TOOL					
									MWD													MWD
							L	\Box	MWD							l						MWD
75277 1										D/	AJLY	ACTIV	ΊΤΥ									
	10 4:30	4.50		down f			HI															
	8:00	3.50		bit mot			t MV	۷D					_									
	0:30	2.50		to 309										-		-17-1-1	71	11				
	1:00	0.50		y up wa		eam :	3097	to 3	172						-CON	FIDEN	Щ	AL				
	1:30 3:00	0.50 1.50		to 380 sh & rea)1 to :	3852								AAI							
	4:30	1.50		3852 t																		
14:30 1	5:00	0.50	Was	sh & rea	am 380)1 to :								essured u								
	0:00	5.00					_	_	r came	thru	u tab	le part	ted,	Internal o	apture de	vice broug	ht a	ll of	motor	out of	hole	
	2:00	2.00		mouse					anchi+	3 01		nol 2	nt c	namar a	onel, rest	of PUA						
0:00	.00	2.00	FICK	up Co	HVEHUC	niai E	η.	טונ, ו	icai Dil	o pt	. 11101	1101,3	pt. r	camer, m	ionei, rest	Andio						
			Will	go in h	ole with	h this	asse	embly	and t	y to	alle	viate h	ole	torque, a	nd check	dog legs to	see	e if th	nat is	an issu	e	
0:00																Max moto						nal exper
0:00																						
0:00 0:00																						
0:00 0:00 0:00			TL!-	Om		@ 20°	70															
0:00 0:00			This	am rea	aming (@ 38	70															

		Engi	neering	& Suj	pervisi	on _		EXA	C	۲ En	gin	neeri	ing, Ind				(918) 5	99-940	0		
Oper	ator:	Wolverin	e G&O C	o of Uta	h, LLC				D	RIL	LII		REPO					midnig	ht to m		ht	
DATE 12/	22/04	WELL	lverine f	edera	17-3	CONTR		t Jnit Rig t	#11	1		1	INTY, STATE Vier, UT	10-Dec		АРМ 041-3		36	SUPER\		Na	aylor
DAYSF	/ SPUD 13	PRESE	NT OPERAT	_	IIDNIGHT	le		TAL DEPTH 3,852			OGRE:		DRILL	ING TIME .00	#DIV/	01		Arania	AU	TH. D	PTH	
<u> </u>	13		LO IISI	o non	ing too	13	느	3,002	_			DATA		.00] #DIV/	<u> </u>		Arapie		000		7100
w		VIS.	WL			PH	SAN		LIDS	%	PV	YP	GELS	DEPTH	DATE/TIME	+	LORI		CALCIUM	мвт	-	ALT PPM
10	.1	35	42.	0 3	/32 8	8.0	0.50	0	5.3		4	8	4/6	3815	12/22/16:00	12	20,0	00	2000	<u> </u>	18	83,150
BIT :	SIZE	MFG.	TYPE	IADC	SERIAL	NO.	J	ETS (1/32nd*	7		IN D	OUT	FOOTAGE	HOURS	ROP		MTR	RPM	WOB	DL	LL CC	ONDITION
NO.				CODE	 			or TFA				L	-	ļ	41511141		<u> </u>	RT+MTF		Ŧ	В	G
┝╌┼╴					 			 		+			 	 	#DIV/0		У	150	10/25	4		
\vdash		一十		<u> </u>	 								1	 	#DIV/0		-		 	1	\dashv	
															#DIV/0							
								HYDRAU	JLTC										SLOV	_		
PUMP NO.	MANU	FACTURER	LINER	STROKE LENGTH	GAL / STI	K SPM	GI	PM AV C	P	AV DC	PUI	- 1	MTR DIFF PRESS.	HH	> / IN ²	EC	D D		60 spm	80 s	pm	100 spr
1	Na	tional	6	8.5	2.97	110	32	27	7								\neg	1	 	<u> </u>	7	
2	Na	tional	6	8.5	2.97	110	32	27										2				
Both	<u></u>																					
BOTT	NUOLE A	D SSEMBLY		LE STRING LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO 4.00 Arapien Rig No L															5			
	Overs			Cell Nr STRING GEOLOGIC GENERAL INFO LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO Rig No Cell Nr 918-6															1	Jnit 111		
1 jt. 10			28	Cell Nr 18-6																15-6671		
хо			2	Cell No. Cell No. Cell Street Cell S																12/14		
								BOTTOMS			G GAS		GAS DATA CONN G	AS	TRIP	SAS		Next E	OP Tes	t	\perp	
XO S.E.	(0 aniro			.00		 		30 m	_		to 2		SHOWS		0				afety M		g	12/14
6 - 6 5/ 26 - 5"	spiral v		180 780					GAS UN	VITS		FROM	+	10		ROP (F)	/HR)	\exists		OP Drill perate F		-	12/14
jar	op.i.u.	···		.00			_			\top					*		-		perate E		_	
Total			1,028						_									Last O	perate /	Annu	lar	
STRING 128		75	₽0 WT 150		115	801. TOP 550		GRD. ELEV 5,736		ON GI	17 KI	В	KB ELEVA 5,753		INTERMEDIA	ATE CS	G		ASING 15	Z	580	ASING
				=					_	SI	JRVI	EYS	0,700								-	
MD	INCL.	AZIMUTH	TVD	SECTION	N+ / S-	E+/W-	DL			MD	INC		AZIMUTH		/O	SECTI	ION	N+/S-	E+ / W-	DL:		TOOL
								MWI									_				_	MWD
								MW	ᆀ	BAU												MWD
FROM	ŤΟ	HRS	24 HO	URS - MID	NIGHT TO	MIDNIGHT				DAIL	YAU	TIVIT	<u> </u>									
0:00	3:30	3.50	RIH	w/ove	rshot &	9 3/4"	grap	ple														
3:30	9:00	5.50						fish, lo						·								
9:00 13:00	13:00 13:30	4.00 0.50			fish, gra apple t		as c	ulled ou	ıt. C	Could	of do	ne thi	s while wa	shing ove	r stator.							
13:30	14:00	0.50		service		0 9 5/6																
	17:00	3.00			rshot &	9 5/8"	grap	ple	_				· · · · · · · · · · · · · · · · · · ·	····								
17:00	18:00	1.00	Tag	fish @	3795 v	work do	own 1	to 3820					_									
18:00	0:00	6.00					aug	ht, Had t	to w	vash &	bea	at thru	tight spots	@ 2800	to 2710 &	2420) to	2390				
0:00				D of fi	sh was	9 3/4"													-			
0:00														1 15	IN THE	FHA	+					
0:00			This	am Ri	H w/ di	rection	ai as	sembly	_					COM	###	111	سلا				_	{
0:00														AAII								
0:00																						
0:00																						
0:00			·	 -																		
5.55			·																			
Daily To	otal	24.00																				

		Engli	neering	& Sup	ervisio	on –		E	(AC	TE	ngi	nee	erir	ng, Inc				(918) (599-94	100		, ,4
Opera	ator:		e G&O Co											REPO			24 hi	rs - I	midni	ght to	mi	dnight	
DATE		WELL			45.0	CONT	RACTOR			4.4		1		TY, STATE	SPUD DATE	40.0	AP#			SUPE			
12/2 DAYS F/	21/04 SPUD		IVERINE F			L		JOIL F	lig #1 ਸਮ		RÖGR		Sev	ier, UT	10-Dec	43-0 ROP	41-3		MATION			rren N	
	12	<u> </u>	РООН	w/ 8" c	versho	t		3,	852			0		0.	00	#DIV/0)!	L	Arapi	en		<u> 5550' /</u>	7100'
											MUD												
10.			46.0).O	SAN	-	SOLID 5.5		_ P V	-	7 7	GELS 5/7	3852	12/21/16:00	-	18.00		CALCIU 2200			83,150
10.		30	40.0	3/	32 3	.0	0.5					DAT		3//	3002	1221/10.00		10,00	10 1	2200			00,100
BIT S	SIZE	AFG.	TYPE	IADC CODE	SERIAL	NO.		IETS (1/			IN		UT	FOOTAGE	HOURS	ROP		MTR	RPM RT+MT	R WO	В	DULL C	ONDITION
3 12	.250 E	OPI I	MP 45	447	20157	727 (x 16		1	.18	3655			197	11.00	17.9		у	150	10/	25	4	
4 12	.250 F	ITC	<u>J-1</u>	327	RET	IP	16	16		16		igspace			0.00	#VALUI		Ы		ــــــــ	4		<u> </u>
	-					}		ļ	-			┼				#DIV/0		Н		 	-		
			<u>l</u>									<u> </u>				#DIV/0	!	Щ					<u> </u>
PUMP	MANUE	ACTURER	LINER	STROKE	GAL / STK	SPM		PM	AV DP	AVD	сТр	UMP		MTR DIFF	НН	P / IN ²	EC	D.				PUMF 80 spm	100 spr
NO.				LENGTH						L		RESS.		PRESS.					止				
1		tional	6	8.5	2.97	110	+-	27			-		ļ					_	_1_	4-	_		
2	Na	tional	6	8.5	2.97	110	+	27	455				ļ						2				L
Both	<u></u>		<u> </u>		5.94	220	<u> 6</u>	53	123	127	<u> </u>												
BOTTO	MHOLE A		RILL ST	NGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO 1.00 Arapien Rig No Cell Nc 918-6															0				
Bit				NGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO 1.00 Arapien Rig No 8.00 Cell Nr. 918-6 29.00 Last BOP Test															Unit 11				
Nearbi	t 3 pt.		8.	NGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG INFO															45-667				
8" DC			29.	.00										******					Last	BOP T	est		12/14
3 pt.			8.	.00				вотт	OMS_UP	TIME	BG G	λS		GAS DATA CONN G	AS	TRIPG	AS	#	Next	BOP 1	es		
XO				.00				3	0 min.		1 to	25	Ĺ	O SHOWS		0		_		Safety		eting	12/14
	/8 spiral		180.					G/	AS UNIT	s	FRO	М		ТО		ROP (FT	/HR)	7		BOP D	_	0	12/14
	spiral v	vt.	780. 32.	-				<u> </u>		\dashv						-						ipe Rai lind Ra	
ar Total	BHA:		1,040.							-		\dashv						-					12/14
STRING		BHA WT.	PU WT.		o wr.	ROT. TO	DRQUE	GRD.	ELEVAT	ION	GL TO	кв		KB ELEVA	TION	INTERMEDIA	TE CS	iG		CASING			CASING
128		75	150		115	55	0	<u></u>	5,736	يلي	17			5,753	<u></u> _					315		58	300
		1	in a l	SECTION	.ia I	5	7 .		200: 1		SUR						0507		NI. 40	T =	T	816	7001
MD	INCL.	AZIMUTH	TVD :	SECTION	N+/S-	E+/W	- <u>D</u> I		700L MWD	MD	+-	ICL.		ZIMUTH	<u></u>	VD	SECT	ION	N+ / S-	E+/\	+	DLS	MWD
							十	-	DWN		1		_					7		_	7		MWD
										DA	LYA	CTIV	/ITΥ										
FROM	TO	HRS			NIGHT TO																		
0:00	1:30 6:00	1.50 4.50			D 8" ov							_		fish. Reamer							_		
1:30 6:00	8:30	2.50			3', tigh		earbi	t real	ner, c	DC.	, 12	1/4 3	pt. r	<u> Teamer</u>									
8:30	9:00	0.50			3 to 23																		
9:00	10:30	1.50			0', LD :		s up	to 34	43'														
10:30	11:00	0.50	Rig	service																	_		
	19:00	8.00			am 34					n					~^!F	INCAIT	141	L			_		
19:00		0.50			vis. Sw			dry	job.						CONF	INCIAI	1						
	23:00	3.50			ng spir										~~~								
23:00	23:30 0:00	0.50 0.50			Reame oversh				" Was	hnine				·							_		
0:00	V.00	0.50		5/7	370131	.01 0	. , 1	5 5/4	1103	ייואיי													
0:00																· · · · · · · · · · · · · · · · · · ·						· · · · · · · ·	
0:00																							
0:00																					_		
0:00			This	am. W	ashing	over	fish.																
0:00			·																				
		04.60																					
Daily T	otal	24.00																					

DAYS F/SPUD	MBT SALT PPM 183,150 DULL CONDITION T B G 4
12/20/04 Wolverine Federal 17-3 Unit Rig #1111 Sevier, UT 10-Dec 43-041-30036 D. DAYS PRUE PRESENT OPERATIONS & WORNSHOT TOTAL DEPTH PROGRESS ORLUNG TIME ROP FORMATION AL	MBT SALT PPM 183,150 DULL CONDITION T B G 4
11	MBT SALT PPM 183,150 DULL CONDITION T B G 4
WT	DULL CONDITION T B G 4 V PUMP 80 spm 100 spm
9.9 33 45.0 2/32 10.2 0.50 5.0 5 5 4/5 3852 12/20/04:00 211,000 2100	DULL CONDITION T B G 4 V PUMP 80 spm 100 spm
BIT DATA BIT DATA	DULL CONDITION T B G 4 4 V PUMP 80 spm 100 spm
BIT SIZE MFG TYPE MAC SERIAL NO DETS (1/22/MC) NO OT FOOTAGE HOURS ROP MTR RPM RT-MTR RT-M	T B G 4 4 PUMP 80 spm 100 spm
NO NO NO NO NO NO NO NO	T B G 4 4 PUMP 80 spm 100 spm
	V PUMP 80 spm 100 spm
#DIV/OI #DIV	80 spm 100 spm
Hydraulics	80 spm 100 spm
National 6 8.5 2.97 110 327	80 spm 100 spm
PUMP MANUFACTURER LINER STROKE GAL/STN SPM GPM AV OP AV OC PUMP PRESS. HHP/IN ² ECD 60 Spm FRESS.	80 spm 100 spm
No	AL INFO
1	
2	
Both	
DRILL STRING	
BOTTOMHOLE ASSEMBLY LENGTH O.D. I.D. FORMATION MD TVD LITHOLOGY RIG No	
Cell Nc Last BOP Tes	INFO
Last BOP Test BOTTOMS UP TIME BG GAS CONN GAS TRIPGAS Next BOP Test	Unit 111
BOTTOMS UP TIME BG GAS CONN GAS TRIP GAS Next BOP Test	918-645-6671
BOTTOMS UP TIME BG GAS CONN GAS TRIP GAS Next BOP Text	t 12/14
6 - 6 5/8 spiral wt.	it
Composition Composition	eeting 12/14
STRING WT BHA WT PU WT SO WT ROT TORQUE GRD. ELEVATION GL TO KB KB ELEVATION INTERMEDIATE CSG LAST CASING 128 75 150 115 550 5,736 17 5,753 615 SURVEYS MD INCL AZIMUTH TVD SECTION N+/S- E+/W- DLS TOOL MD INCL AZIMUTH TVD SECTION N+/S- E+/W- MW/D SECTION N+/S- E+/W- MW/D SE	12/14
Total BHA: 992.00	ipe Rar
STRING WT. BHA WT. PU WT. SO WT. ROT. TORQUE GRD. ELEVATION GL TO KB KB ELEVATION INTERMEDIATE CSG LAST CASING 128 75 150 115 550 5,736 17 5,753 615 SURVEYS MD INCL. AZIMUTH TVD SECTION N+/s- E+/W- MWD MWD NCL. AZIMUTH TVD SECTION N+/s- E+/W-	
128 75 150 115 550 5,736 17 5,753 615	Annular 12/14
SURVEYS	5800
MD INCL. AZIMUTH TVD SECTION N+/s- E+/W- DLS TOOL MD INCL. AZIMUTH TVD SECTION N+/s- E+/W- MWD	
	DLS TOOL
MWD	MWD
	MWD
DAILY ACTIVITY	
FROM TO HRS 24 HOURS - MIDNIGHT TO MIDNIGHT	
0:00 2:30 2.50 Wait on Fishing tools	
2:30 3:30 1.00 Make up 11 3/4 overshot, 1 jt. 10 3/4 wash pipe 3:30 7:00 3.50 RIH w/ fishing tools	
3:30 7:00 3.50 RIH w/ fishing tools 7:00 8:00 1.00 Kelly up wash thru ledge @ 1435'	
8:00 9:30 1.50 RIH w/ fishing tools	
9:30 13:00 3.50 Circ. Try to work thru tight spot @ 3524'. No go	
13:00 16:30 3.50 POOH LD fishing assembly	
16:30 17:00 0.50 Make up 8" overshot w/ 5 1/8 grapple	
17:00 19:30 2.50 RIH w/ fishing tools	
19:30 21:00 1.50 Wash over fish, was able to get on fish, but could not get hook set.	
21:00 0:00 3.00 POOH LD fishing assembly	
0:00	
0:00	
0:00 This am. RIH w/ 12 1/4 bit, 12 1/4 nearbit reamer, 8" DC, 12 1/4 3pt. Reamer & rest of BHA	
0:00 Will clean up tight spots & ledges so we can get on fish w/ 11 3/4 overshot & 1 jt. 10 3/4 washpipe.	
0:00 Inspection of 8" overshot showed we were over fish, 5 1/8" grapple was dulled out.	
0:00	
Daily Total 24 00	

Γ			Engli	neering	. & Su	pervis	ion			EX	٩C	TE	Enc	ain	eer	-in	g, Inc	•	- 		(9	918)	599	-9400			
Ор	erato	or:		e G&O C									`			_	EPOI			24 h	<u>_</u>			to mi		nt	
DÄT			WELL				co	NTRAC				4.4					Y, STATE	SPUD DATE	T T	API				SUPERVI	SOR	_	4
	2/19 F/ SP			IVERINE F			ــــــــــــــــــــــــــــــــــــــ		TOTA	nit Rig	#1 	11	PRC	GRES		evi	er, UT DRILLI	10-Dec	43-U ROP)41-3		MATIO			rren H. DEI		/lor
<u> </u>	10)	<u> </u>	Wait c	n fishi	ng too	s		<u> </u>	3,8	52		L_	12			9.	00	13.8			Arap	ien	6	5550	/7	100'
匚	wr		VIS.	T WL		ск Т	PH		SAND	7 8	OLID	S 44.	_	UD 0 ∾	ATA YP	_	GELS	DEPTH	DATE/TIME	Гсн	LORID	FS	CAI	LCIUM	мвт	SA	LT PPM
	0.8+		33	46.0	0 2		10.5	┿	0.50	_+_	4.8		_	3	4		3/4	3852	12/19/16:00	+	31,50			100			1,500
E														IT D		_											
BIT NO.	SIZE	E N	AFG.	TYPE	CODE	SERIA	AL NO.		JE1	TS (1/32) or TFA	nd")		1	N	OUT		FOOTAGE	HOURS	ROP		MTR	RPN RT+M		WOB		B B	G
2	12.2	50 C	OPI M	P54-B2	437	2010	038	6 x	16		1.	18	_	15	365	5	3040	89.00	34.2		Υ	150	-+-	10/25	4	\downarrow	
3	12.2	50 C	DPI I	MP 45	447	201	5727	6 x	16		1.	18	36	55		\dashv	197	11.00	17.9		У	150	4	10/25	\dashv	4	
\vdash		+-			 	╁─		-	\dashv		╁	\dashv	_	\dashv		+			#DIV/0		\vdash		╁		\dashv	+	
岸								<u></u>	<u>_</u> _	YDR/	\ULI	CS	=	<u></u>		<u> </u>			#51770	<u></u>	_			SLOW	PU	P	
PUI	í	MANUF	ACTURER	LINER	,	GAL/S	rk s	РМ	GPN		V DP	AV	DС	PUM	- 1		ITR DIFF	нн	> / IN²	EC	D D	T					00 spm
N(No	tional	6	LENGTH	2.97	+ 1	10	327	, -		-	\dashv	PRES	SS.	1	PRESS.			-		1	+			+	
<u> </u>			tional	6	8.5	2.97		10	327			 	\dashv		+			<u></u> -		\vdash	╌╢	2	+			+	
Во						5.94		20	653	_	28	13	13	190	00		300										
				RILL ST												G	EOLOGIC				\Box		G	ENER		ΙFΟ	
Bit	TTOM	HOLE A	SSEMBLY	LENGT	н 1.50	Ö.D.		i.D.	-1		pien	_+		MD	+	-	TVD		LITHOL	.OGY		Rig I	Vo.	RIG	NFO	11	nit 111
Mot	or				0.00		+		┪	7,10	рю	`-+			╅						 1	Cell			918		5-6671
9 3/	sta	bilize		5	5.50																	Last	во	P Test		\perp	12/14
2 - 8	" mo	nels			2.00		_		_	BOTTOM	SUP	TIME		G GAS			GAS DATA CONN G	AS	TRIP	AS				P Test		4	
	ock				2.00		┼				min.			to 25	5		SHOWS		0					ety Me	eting		12/14
		spiral oiral w		180 780	_ +		╁┈	-	٦F	GAS	UNITS	7		ROM	7	_	10		ROP (F1	/HR)				P Drill erate Pi	ine R	-	12/14
jar	<u> </u>	3/1 di 11	,		.00		+		╫			7			╅									rate B		_	
	al Bl			1,102 PUWI		SO WT.		. TORG		455 4			-	98.44					INTERMEDIA	. 				erate A			12/14 SING
	NG WI 28	<u>'- </u>	75	150		115		550	-	GRD. EL	736	ION		. TO KE 17	+		KB ELEVA 5,753		INTERMEDIA	A I E US	╩╢		615			580	
								==					St	JRVE	YS:								_				=
MC		INCL.	AZIMUTH		SECTION		E+/		DLS		OL	ME	<u> </u>	INCL	Ŧ	A.	ZIMUTH	T	/D	SECT	ION	N+/S	-	+ / W-	DLS	-	TOOL
3,5			223.70	3289 3448	#####				2.80		۷D		┥								+		+				MWD
3,7	0 0	0.20	223.10	3440	nnunu	mana	n n n		0.00	J IVIV	VO	D/	<u></u>	/ AC	TIVI	ĪΫ			<u></u>							<u></u>	VIVVD
FRO	w	TO	HRS	24 HC	DURS - MI	DNIGHT T	O MIDN	IGHT								Ë			······································				_			_	二
0:0		9:00	9.00			veys 3			852																		
9:0 9:3		9:30 1:00	0.50 1.50			eam tiç Half ol			to re	COVE	r																
11:0	_	4:30	3.50			of hole		y	.010	20018																	{
14:3	0 (0:00	7.00	Wai	it on F	ishing	tools																				
0:0																											
0:0	_																	CONE	INCHT	11	-						
0:0	_			This	am T	IH with	fish	ina t	ools							_		(:UNF	MEIN	HD							
0:0	_												_					W V 3 4 4								_	
0:0																											
0:0	_	-																		-							
0:00	_															_		·····									
0:00	-																										
0:00	-												_														
0:00	4-						-																				
Daily	Total		21 50																								

		Eng	ineerin	7 & S	upervi	sion		E	XAC	T E	Eng	jine	eeri	ng, Inc				(:	918) 5	99-940)	
Opera	tor:		ine G&O (REPO	 		24 hi	rs - 1	midnig	ht to m	idnight	***
DATE	0/04	WELL		F 1	-147.0	COI	NTRAC		Oi #4	4.4		T		INTY, STATE	SPUD DATE	42.0	AP#			SUPERV		la dos
12/1 DAYS F/ S	8/04 spuo		Olverine			- -		TOTAL	Rig #1	11	PRO	GRESS		vier, UT	10-Dec	43-0 ROP	41-0		MATION		TH. DEPT	
	9			Drill	ing				3,728		Ļ	200		9	.00	22.2		Ļ	surfac	e	6550' /	7100'
wt		VIS.	T w		ск Т	PH	٥	AND	SOLID	5 %	MU P	/D D.	ATA YP	GELS	DEPTH	DATE/TIME	Сн	LORIC	rës l	CALCIUM	МВТ	SALT PPM
9.8+	+	34	44	-	3/32	10.5		.50	5.0		6		9	4/7	3655	12/18/18:00	 	03,0		2000	1 1 -	169,950
												T DA										
BIT SI	İΖΕ	MFG.	TYPE	COD		IAL NO.			(1/32nd") TFA		1	'	OUT	FOOTAGE	HOURS	RŌP		MTR	RPM RT+MTR	WOB	T B	G
2 12.	250	DPI	MP54-B2	43	7 20	6038	6 x	16	1	.18	61	5	3655	3040	89.00	34.2		Υ	150	10/25	4	
3 12.	250	DPI	MP 45	44	7 201	5727	6 x	16	1	.18	36	55		73	2.00	36.5		у	150	10/25	- - 	
	\dashv			┼				+-				┰┼		 		#DIV/0 #DIV/0				 	╁╌┼╌	
								HY	DRAUL	CS								_		SLOV	V PUMI	5
PUMP	MANU	JFACTURE	R LINER	STRO		STK SI	M	GPM	AV DP	AV	DC	PUMI	ı	MTR DIFF	ння	P / IN²	EC	CD		60 spm	80 spm	100 spm
NO.	N	ational	6	LENG 8.5		7 1	10	327	1	\vdash	\dashv	PRES	S.	PRESS.	 		L		1	 	 	
2	_	ational	6	8.5			10	327				_	工						2			
Both																						
2077		DRILL STRING GEOLOGIC GENERAL INFO														Ō						
Bit	DRILL STRING GEOLOGIC GENERAL INFO														Unit 111							
Motor			2	9.00																	918-6	45-6671
				_		1		4		l			L	GASTIATA								12/14
	CONTROLE ASSEMBLY LENGTH O.D. I.D. FORMATION MID TVD LITHOLOGY RIG INFO														40/44							
6 - 6 5/8				0.00		+-			GAS UNIT			ROM	_	SHOWS		ROP (FT	AUB)			OP Drill		12/14
26 - 5" s			+	0.00					GAS OITH	<u>'</u>		NOIM!				NOF (F)	irik)	7		perate F		
jar			3:	2.00									I							perate E		
Total E		BHA WT.	1,10		SO WT.	ROT	TORG	UE GR	D. ELEVAT	ION	GL.	то кв		KB ELEVA	TION	INTERMEDIA	TE CS		Last C	perate /		12/14 CASING
128		75	150)	115		550		5,736			17		5,75	3				6	15		800
												RVE	YS									
3,524	32.00	223.7		SECTION SECTION			_	DLS 2.80	MWD	ME	}	INCL.	╁	AZIMUTH	Τ\	/D	SECT	ION	N+/S-	E+ / W-	DLS	MWD
			0 3448	####	# ####	# ###		0.80	MWD		十		†					7				MWD
										D/	AILY	ACT	IVIT	Υ								
0:00	то 7:00	7.00			widnight urveys			54				·										
7:00	8:00				eep &											 						
8:00	12:00	4.00			or p rat																	
	14:30				bit mot	or & N	lwd															
	16:30 17:00			to 2	ream b	ridae	2500	to 25	300													
	18:00				h 60' to		2000	10 20	130								17	1 1				
	18:30		Dri	1 365	6 tO 36	30				_						VEIDE	T	JA				
	21:30								to 360	0						11.15						
	0:00				pump, urveys				ib.													
0:00	0.00	1.50	Uni	1 04 SI	ai veys	JUOU 1	U 3/	20														
0:00		厂								_					 -							
0:00																						
0:00		 	6:0	0 am	drlg. @	3820					_											
0:00		-	 																			
5.55			1												 .							
Daily To	ıtal	24.00																			-	

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

February 20, 2005

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Wolverine Federal 17-3 well

Sec 17 T23S R01W Sevier Co., UT API# 43-041-30036 #

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well from January 19, 2005 through our final drilling report on January 24, 2005. Our present status is waiting on completion while we continue to drill additional wells from the same drill pad. We respectfully request that the enclosed information remain confidential.

Steven R. Hash

Consulting Engineer for Wolverine Gas and Oil Company of Utah, LLC

RECEIVED

FEB 1 1 2005

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC: Richard Moritz, Sue Benson EXACT Engineering, Inc.

well file

DIV. OF OIL, GAS & MINING

Petroleum Engineering Consulting, Personnel & Jobsite Supervision complete well design, construction & management, drilling, completion, production, pipelines, appraisals, due diligence, acquisitions, procedures, temporary personnel and field supervision

			Engir	eering	& S	uperv	ision		-	EXA	СТ	Eng	gin	eer	ing,	Inc.				(9)18)	59	9-9400)		
Ор	erat	or: V	Volverin	• G&O C	o of l	Utah, Li	rc		DA	ILY	D	RIL	Lif	NG	RE	PO	RT		24 hs	rs - r	nide	nigh	t to mi	dnight		
DATE		9/05	WELL	luanina l	Cada	rol 17		ONTRAC		ii Dia i	844	4			DUNTY, ST		SPUD DATE	42.0	APM		·-		SUPERVI			
DAYS				IVERING I					TOTAL	II Rig #	F11		OGRES		evier, I		10-Dec	43-0 ROP	41-0		MATK	ON.		H. DEPT		Or
<u> </u>	4	1	Ļ	work st	uck i	oggin	tool			7,150)			0		0.	.00	#DIV/0)!	<u> </u>	Nav	/ajo		6550'	/71	100,
		·		7			T	1						DATA					-				*****			
	WT 10.3	-	vis. 41	10.0	\rightarrow	2/32	9.0		0.50		2.8	_+_	PV 7	4P 6		ELS 5/6	7150	1/17/08:30	_	10,00	_	-	ALCIUM 1050	MBT ##		7 PPM 0.000
=				1			1 0.0							ATA	`		1 1100	1717/00:50		70,00		_		1 ""	900	,000
ВП	ŚĮŹ	ZË M	FG.	TYPE	IAE		RIAL NO).		S (1/32nd)		iN .	OUT	FOO	TAGE	HOURS	ROP		MTR			WOB			DITION
NO.		_	_		COI	DE		+-		or TFA					+			#DIV/0	1	Н	RT+I	MTR		7 6	+	G
			1			\top		\top	十						+-		1	#DIV/0			<u> </u>				+	
																		#DIV/0	!							
					L													#DIV/0	!					\Box	I	
										YDRAL	_												SLOW		_	
PUI	ı	MANUFA	CTURER	LINER	STRO	OKE GAL	./STK	SPM	GPM	AVE	OP	AV DC	PU	IMP ESS.	MTR 0		HH	P / IN ²	EC	OC.		-	60 spm	80 spi	7 10	00 spm
1		Nat	ional	6	8.	_	.97	123	365	5	1		T				<u> </u>						400		\dagger	
2		Nat	ional	6	8.	5 2	.97	0	0												7	2	400			
Во	th			<u> </u>	<u> </u>	5	.94	123	365	5 17	2	189	15	00	150)	<u> </u>				Ĺ					
					STRING GEOLOGIC GENERAL INF GTH O.D. LD. FORMATION MD TVD LITHOLOGY Rig INFO 1.00 Navajo 6,501 5,984 Rig No															0						
8 1/		AHOLE AS	SEMBLY	 	5.94 123 365 172 189 1500 150														l le	nit 111						
6 1/				+	5.94 123 365 172 189 1500 150																5-6671					
23	5" H	WDP		694	4.00																Las	st B(OP Test	1	Τ	1/7
Jar				32	2.00					OTTOMS	UP TI	ME	BG GA	8	GAS	DATA CONN C	SAS	TRIPG	AS		Ne:	xt B	OP Tes	t		2/7
3 5	' HV	VDP		 	0.00				┵	53	3	1	to 2	25	SH	0 ows		0			·		afety Me		+-	1/17
		- 6	M	IEIF	升	NT.	HAI		-	GAS U	NITS		FROM	-		70		ROP (FI	/HR)				Ilind PC		+-	1/16
-		{	الار	} 	ᅫ	111	11 \F	<u> </u>	╌╢╴			+	—	-				 		\dashv	ļ		perate F perate F		_	1/17 1/17
To	tal B	BHA:		847	7.00		_		-#			+		十						\dashv	_	•	perate A		_	1/7
_	NG V	VT. B	HA WT.	PU W		SO W		OT. TOR	QUE	GRD. ELE		ON G	L TO F	KB .	KI	ELEV/		INTERMEDIA	TE CS	SG.		AST C	ASING		T CA	SING
	160	<u> </u>	50	200)]	130		200		5,73	36		17			5,75	3	L			<u></u>	58	28	<u> </u>	TD	
M	5 1	INCL.	AZIMUTH	TVD	SECT	ION N	/S- E	E+ / W-	DLS	TOC	x R	MD	INC	EYS	AZIMU	TH	T T	VD	SECT	TION I	N+ /	/S-	E+/W-	DLS	_	TOOL
																		15			<u></u>				T	.545
													L												I	
												DAIL	YA	CTIVI	ΤY											
FRC 0:0	-	7:00	7.00			- MIDNIGI			o Di	D & rel	loge	a Hal	ihur	ton le	aging	truck			-							
7:0	_	17:00	10.00			tuck lo			C, IXI	D G 1G	Cas	C I Idi	Duit	COIT IC	<u>yayırıy</u>	uuck	· · · · · · · · · · · · · · · · · · ·									
17:		18:00	1.00			ve Ge			very																	
18:	00	0:00	6.00							ave ge	n, r	nade	3' pr	rogre	ss											
0:0				ļ																						
0:0	\neg			ļ								· · · · · · · · · · · · · · · · · · ·					·									
0:0	-																									
0:0															•		·	·								
0:0	_			 																					_	
0:0	-																									
0:0	-																									
0:0	_		L	<u> </u>			٠																			
0:0	_			<u>6</u> 8	ım. S	till wo	rking	stuck	loggi	ing too) <u> </u>				····		 									\dashv
0:0	-											• • •			-,,											
0:0	_			 													 	 								-
	1			<u> </u>						······································					- 		······································	· · · · · · · · · · · · · · · · · · ·								
Dai	y To	otal	24.00																							

COST DATA

		Engin	eering	& Sup	ervisio	n		EX/	ACT	ΓEn	giı	nee	rin	ıg, Inc.				(9	118)	599	9-9400		
Open	tor: \		680 C	o of Uta	h, LLC			AIL'	Y C	RIL	<u>.Ll</u>	NO	3 F	REPO		2	24 hr	rs - r	nidr		t to mic		
DATE 01/	20/05	WELL.	verine F	ederal	17-3	CONTR		nit Rig	#11	11				TY, STATE IEF, UT	SPUD DATE 10-Dec	43-0	AP# 41-3		16		SUPERVI	sor rren N	avlor
DAYS F	SPUD		T OPERATI	IONS @ M	ONIGHT	1		AL DEPT	Н		ROGR	ESS		DRILLI	NG TIME	ROP		FOR	MATIC		AUT	H. DEPT	1
	42		Wait o	n Fishi	ng tools	3	<u> </u>	7,1	50			0		0.	00	#DIV/0	!	_	Nav	ajo		3550' /	7100'
W		VIS.	WL		CK I	>н [SAND		SOLIDS		PV	DAI	YP	GELS	DEPTH	DATE/TIME	CHL	ORID	ES !	C/	ALCIUM	MBT	SALT PPM
10		50	10.0			0.0	0.50		2.8		8	-	10	5/6	7150	1/17/08:30		0,00	-		050	_	330,000
											BIT	DAT	A										
BIT :	SIŽE N	IFG.	TYPE	IADC CODE	SERIAL	NO.	J	or TFA	nd")		IN	T°	TUC	FOOTAGE	HOURS	ROP		MTR	RP RT+1	1	WOB	T B	G
									T			1				#DIV/0	!	П					
																#DIV/0							
	_				<u> </u>				↓_			4				#DIV/0	!			_		\perp	
$oxed{oxed}$				<u> </u>	<u> </u>							1_		L	L	#DIV/0	!	L	<u> </u>			ــــــــــــــــــــــــــــــــــــــ	<u> </u>
	T			Lamaya				HYDR					_			m·2					SLOW		
PUMP NO.	MANUF	ACTURER	LINER	LENGTH	GAL / STR	SPM	GF	^^^^	V DP	AV DC	- 1	PUMP RESS.	L	MTR DIFF PRESS.	НН	P / IN ²	EC	,0		\dashv	ou spm	ou spn	100 spm
1	Na	tional	6	8.5	2.97	123	36	35											1		400		
2	Na	tional	6	8.5	2.97	0													2	2	400		
Both	<u></u>		L	<u> </u>	5.94	123	36	35	172	189	1	500	<u> </u>	150	L				L				
BOTT	OMHOLE A		RILL ST		O.D.	1.0		FOR	MATIO		M			SEOLOGIC TVD		LITHOLO	NOV.				GENER	AL INF	Ö
	vershot			5.00	<u> </u>	<u> </u>			evajo		6.5			5,98		LITHOL			Ria	No	- KAS	iidi O	Unit 111
26 hv			 	1.00															ľ	i Nc		918-	345-6671
																			Las	st BC	OP Test		1/7
					~			вотто	MS UP	TIME	BG G	AS		GAS DATA CONN G	AS	TRIPG	AS	\equiv	Ne	xt B	OP Tes	t	2/7
	_	ANT	INE	TIA	141	ļ		<u> </u>	53	Щ.	1 to	25	<u> </u>	0 SHOWS		0		_			fety Me	eting	1/20
	- 1	WU	HUL	777	IUL	<u> </u>	\dashv	GA	UNITS	-	FRC	DMT	F	10		ROP (FT	/HR)	\dashv	-		OP Drill	. 5.	1/20
	<u>~</u>					├		<u> </u>		+	-		┼-					\dashv	_		perate F		4
Total	BHA:	······	789	9.00			7.075.7	 		\dashv			 						_		perate A		
STRING		BHA WT.	PUW		SÖ WT.	ROT. TO	RQUE	GRO. E	LEVAT	ION	GL TC	KB		KB ELEVA	TION	INTERMEDIA	TE CS	iG.	P	STC	ASING		CASING
16	0	50	200		130	20	00	5	,736		17		<u></u>	5,75	3	<u></u>		i	<u> </u>	58	28	<u> </u>	TD
140	1 4101	Lamaire	7/0	LOFOTION	d w. (6	T 5. 000	T 5		2001			VEY		A 70 M 41 4 77 1			050	rioù I		. T	F. (14)	DLS	700
MD	INCL.	AZIMUTH	TVD	SECTION	N+/8-	E+ /W	- DI	* '	OOL	MĐ	+	NCL.		AZIMUTH	<u> </u>	VD	SECT	ION	N+ /	5-	E+ / W-	ULS	TOOL
					 	1					1							7		7			
										DA	LY /	ACTI	VITY										
FROM		HRS			DNIGHT TO																		
0:00	10:30 16:30	+	-	OR Stu	ck loggi	ng too	W/V	vave	gen,	made) 1' p	orogi	ress										
10:30 16:30	-				logging	tool	Catch	1 # 1 v	with c	versh	not i	86' e	till ir	n hole									
17:30		6.50			shing to		JU101			73131	. J (3	-4171 13										
0:00							_						_										
0:00																							
0:00	ļ	<u> </u>	ļ														,						
0:00	 	ļ			· · · · · · · · · · · · · · · · · · ·							·		 									
0:00	 	} -	ļ			·-···																	
0:00	 -	 	<u> </u>																				
0:00	 	 	 																_				
0:00		<u> </u>	Thi	is am.	Latched	on to	tool	for 2n	d. Ti	me													
0:00																							
0:00																							
0:00	 	 	-																				
0:00	 	 	<u> </u>																				
	Total	24.00	ļ											<u></u>									

COST DATA

			Engin	eering	& Sup	ervisi	on		E)	(AC	Γ En	giı	nee	rin	g, Inc.				(9	18) 5	99-9400)	
Ope	erate	or: W	/olverine	G&O C	o of Uta	h, LLC		D	All	LY C	RIL	L	ING	F	REPO	RT		24 hr	'S - I	nidnig	ht to mi	dnight	··
DATE		1/05	WELL	verine F	edera	17-3	CONTR			Rig #1	11		1		IY, STATE IET, UT	SPUD DATE 10-Dec	43-0	AP# 41-3	1003	6	SUPERV	sor Irren 1	lavlor
DAYS	F/ SF	้นอ		T OPERATI	ONS Q M	DNIGHT	4		AL DE	PTH		ROGR	ESS		DRILLI	NG TIME	ROP		FOR	MATION	Аυ	H. DEP	H
	43	3	<u> </u>	POOH	W/ Ca	tch # 2	<u>'</u>	<u> </u>		,150		4115	0 DAT/		0.	00	#DIV/0	!		Navaj	0 1	6550	/ 7100'
	WΤ		VIS.	WL		СК	PH	SAN	D .	SOLIDS		PV	Y	_	GELS	DEPTH	DATE/TIME	СНІ	ORID	ES	CALCIUM	MBT	SALT PPM
1	0.3	L_	50	10.0) 2	/32	9.0	0.5	0	2.5		17	1.		7/9	7150	1/21/09:00	20	0,00	0	960	##	330,000
BIT	SIZ	E MF	G.	TYPE	IADC	SERIAL	NO.		ETS (1	/32nd")		BIT	DATA		FOOTAGE	HOURS	ROP		MTR	RPM	WOB	DULL	CONDITION
NO.		_			CODE	ļ			or T		-					ļ				RT+MTF	-	7 1	G G
┝┼						 			\vdash				+-			<u> </u>	#DIV/0		Н		 	\vdash	-
		\dashv				 			一	_			+		 -	<u> </u>	#DIV/0					ff	
																	#DIV/0						
		·						_	_	RAULI						······································						V PUM	
PUN	- 1	MANUFA	CTURER	LINER	STROKE	GAL / ST	SPM	G	PM	AV OP	AV DC		PUMP RESS.	. (MTR DIFF PRESS.	нн	P / IN ²	EC	o:	┝	60 spm	80 sp	n 100 spm
1		Nati	onal	6	8.5	2.97	123	3	65			I								1	400		
2	_	Nati	onal	6	8.5	2.97	0	+	0			+				ļ			\dashv	2	400	L	1
Во	th [NII 1 81		5.94	123	3	65	172	189	<u> </u>	500		150	<u> </u>			لبب		GENE	AT IN	
ВО	TTOM	HOLE AS:		RILL ST		O.D.	1.0	5.	F	ORMATIO	N]	М	D		EOLOGIC TVD		LITHOLO	OGY				INFO	-0
5 3/4 overshot 5.00 Navajo 6,501 5,984 F														Rig N	0		Unit 111						
28 hwdp 784.00														_	Cell N			645-6671					
		- ^(IMF	 	- N -	111									GAS DATA				=		BOP Tes		2/7
		- ₩	1111	بحدر			╁┈		ВОТ	10MS UP	TIME	BG (CONN	3AS	TRIP'G	AS	\dashv	$\overline{}$	Safety M		1/20
									Ę	SAS UNITS	, ,	FR			SHOWS TO		ROP (FT	/HR)		_	OP Drill		1/20
																				Last (Operate	Pipe R	ar 1/20
					\dashv		-		<u> </u> -		_								_		Operate		
	HAIB ING V	HA:	HA WT.	789	7.00	SO WT.	ROT. To	RQUE	GR	D. ELEVAT	ION	GL TO	Ö KB		KB ELEVA	TION	INTERMEDIA	TE CS	iG.		Operate A		T CASING
	160		50	200		130	20	ю		5,736		1	7		5,75	3				5	828		TD
						·	·	_ _					(VEYS								T	· · · · · ·	7
ME	+	INCL.	AZIMUTH	TVD	SECTION	N+/S-	E+/W	╁	LS	TOOL	MD	+	INCL.		AZIMUTH	 	VD	SEC	TION	N+/S-	E+/W-	DLS	TOOL
												T											
											DA	LY	ACTIV	/ITY									
FRC		TO	HRS			DNIGHT TO		Ť															
1:0		1:00 6:00	1.00 5.00			ishing t grapple										····							
6:0	-	7:30	1.50			n for 2r		try t	o wo	rk loos	e. To	p of	fish 7	706	4								
7:3		11:30	4.00		ЮH, n																		
11:	_	12:00	0.50			ce, ope				d rams	<u> </u>												
12:		16:30 19:00	4.50 2.50			3rd oven				rk looe	e Tor	of	fich 7	ne.	<u> </u>								
19:		0:00	5.00		OH, n		u umo	uy u	, 110	K 1003	<u> </u>		11311 7		<u> </u>								······
0:0	_																						
0:0	0																						
0:0															<u> </u>		 				····-		
0:0				Th	is am	RIH w/	4th ou	areh	ot														
0:0	-			100	is alli.	1 (11 3 W/	701 UV	J. 311	<u> </u>		····							•	-				
0:0																							
0:0	0																						
0:0	ю			<u> </u>																	·		
<u> </u>		nda.	24.00	<u> </u>													 						
Dai	ıy I(UUSII	24.00	ı																			

COST DATA

		Engin	eering	& Sı	uperv	ision			EX/	AC1	ΓΕ	ng	ine	eeri	ing, Ind				(9	118	59	9-9400)		
Operat	or: W	olverine	G&O C	o of U	Itah, L	.c		D/	AIL'	YC	R	ILL	_	1G	REPC	RT				nid	nigh	rt to mic		t	
DATE 01/2	2/05	WELL	verine F	eder	el 17.		NTRAC		nit Ric	1 #11	11		\Box		UNTY, STATE Evier, UT	SPUD DATE		APM 41-1		36		SUPERVI	sor rren	Na	vior
DAYS F/ S	PUD		T OPERATI	ONS @	MIDNIG				L DEPT	Н		PRO	GRES	S	DRIL	LING TIME	ROP		FOR	MATI		AUT	H. DE	TH	•
4	4			Logg	ing				7,1	50			0			0.00	#DIV/0)!	<u>L</u>	Na	vajo		3550	/ 7	100'
WT	- 	VIS.	WL	~	СК	PH	1	SAND		SOLIDS	%]	MIL	_	DATA YP	GELS	DEPTH	DATE/TIME	СН	LORID	ES	C	ALCIUM	MBT	8/	LT PPM
10.2		66	10.0		2/32	8.8		0.50		2.5		20	0	29	14/18	7150	1/22/09:30	20	00,00	00		880	##	33	30,000
						RIAL NO.		15.	70 /4 00			В		ATA OUT	FOOTAGE	Hours	I ROP		LATE		РM	WOB		. 66	NDITION
BIT SI NO.	ZE MF	G.	TYPE	COD		RIAL NO.	<u> </u>	JE	TS (1/32) or TFA	ndF)		II.		001	FOOTAGE	HOURS	ROP		MTR		MTR	MOR	T	В	G
		_			\bot		┦	-		-		-	4			 	#DIV/0		├-				\sqcup	-	
				-	+		╁	-		+	-		-		_	 	#DIV/0		-					\dashv	
	_	\dashv			+		╁┈	+		+	_		\dashv		1	 	#DIV/0		\vdash					1	
F								F	YDR/	AULI	cs											SLOW	/ PUI	ΑP	
PUMP NO.	MANUFA	CTURER	LINER	STRO	KE GAL	/STK	SPM	GPI	MA	V DP	AV	DC	PUN		MTR DIFF PRESS.	H	IP / IN ²	E	CD		_	60 spm	80 s	mc	100 spm
1	Nati	onal	6	8.5	_	97	123	36	5		\vdash		7112	1	r REGG.	†		<u> </u>		┢	1	400			
2	Nati	onal	6	8.5	5 2	97	0	0						\Box	·						2	400	Ĺ.,		
Both	<u> </u>		<u> </u>	<u> </u>		94	123	36	5 1	172	18	39	150	00	150	<u> </u>		<u> </u>		<u> </u>					
ВОТТО	MHOLE AS		RILL ST		3 0.0	· · · · · ·	I.D.		FOR	MATIO	N I		MD		GEOLOG		LITHOL	OGY				GENER RIG	INFO	VFC	
5 3/4 0	vershot			5.00						avajo		6	,501		5,9	84				Ri	g No)		Ţ	Jnit 111
26 hwd	dp		784	1.00				_						_			 				ell No			3-64 T	45- 6 671
														<u> </u>	GAS DATA					-		OP Tes		┥	1/7 2/7
	<i>'NN'</i>	FIT	M	111	H	十		1	вотто	48 UP	TIME		g gas to 2			GAS	TRIP G	AS		_		afety Me		1	1/22
	/UI	110	-11	• •						UNITS	5]		ROM		SHOWS	0	ROP (FI	(HR)		_		OP Drill			1/22
		· · · · · · · · ·	<u> </u>	_										_			ļ			-		perate I			1/22
Total I	DLIA:		700	0.00										+						_		perate /		_	1/22
STRING		HA WT.	PU W		SO W	T. RO	T. TOR	QUE	GRD. E	LEVAT	ION	GL	TOK	<u>18</u>	K8 ELE	VÁTION	INTERMEDI	ATE C	SG			CASING			CASING
160		50	200		130		200		5	,736	i	ļ	17		5,7	'53				<u> </u>	58	28	<u> </u>		D
MD	INCL.	AZIMUTH	TVD	SECTI	ION N	/S- E	+ / W-	DL	s I T	OOL	M		JRV	EYS	AZIMUTH		TVD	SEC	TION	N+	/S-	E+/W-	T OL	3 T	TOOL
L	Ĺ	<u></u>	<u></u>	<u> </u>				<u> </u>	Щ.		<u> </u>					1		<u> </u>		<u> </u>		L	L		
FROM	то	HRS	24 H	OURS -	MIDNIG	it to Mil	NIGHT				D	AIL	YAC	CTIVI	TY										
0:00	1:00	1.00				h, LD																			
1:00	1:30	0.50		ser																					
1:30	8:00	6.50				shot R				logo			£ 50	b 70											,
8:00 9:30	9:30 11:00	1.50 1.50		_		onditio			WOLK	1005	e. re	op c	II IIS	<u> </u>	104							· ·			
11:00		4.50		ЮН																					
15:30		1.50				3' of f	ish in	clud	ing n	eutro	on se	ourc	æ.L	D fis	hing tools										
17:00		0.50		sen																					
17:30 18:00	18:00 0:00	0.50 6.00			logge Rui	#1D	ual la	atter	al log	. To	ol 96	S' lo	na									···································			
0:00				33 3	_	#2D																			
0:00					Rur	#3E	MI to	ol 3	8' lon	9															
0:00																									
0:00	ļ		Th	is am	1. 6:3) finist	ed in	gair	na																
0:00								22.	9																
0:00																									
D-" -		24.00	 													· · · · · · · · · · · · · · · · · · ·							•	-	
Daily 1	Utal	24.00	L																						

COST DATA

•			Engir	eering	, & Su	pervisio	 ЭП		EX	AC"	T Er	ng	ine	æri	ing, Inc.	; <u> </u>			0	918	;) 58	99-9400	,		
	rator			- G&O C	o of Utr	ah, LLC		DA	AIL'					IG I	REPO	RT				mid	nigt	ht to mic		ht	
DATE	1/23/	- 1	WELL	Iverine F	Federa	ıl 17-3	CONTRA		Init Rig	io #1	11		\Box		UNTY, STATE Evier, UT	SPUD DATE 10-Dec	1	AP# 041-3		36	7	SUPERVI	isor arren	- Na	avior
	F/ SPU	Œ	PRESEN	T OPERATI	TIONS @ M	MONIGHT		TOTA	AL DEPT	TH		PROC	GRESS	s	DRILLI	ING TIME	ROP		FOR	RMATE		AUT	TH. DE	PTH	<u> </u>
_	45		Runi	ning 5	1/2" pr	oduction	ı csg.	<u></u>	7,1	50_	<u>ᆜ</u>	_	0		<u> </u>).00	#DIV/0	<u>)!</u>	<u>_</u>	Nav	vajo	<u></u> '	3550	<u> </u>	7100'
	WT	I	VIS.	WL		ČK P	PH	SAND	Ţ	SOLIDS		PV	JD D/ V [YP	GELS	DEPTH	DATE/TIME	ĆН	ILORID	DES.	<u> </u>	CALCIUM	MBT	S/	ALT PPM
_1	0.2	\perp	65	9.0	<u>, </u>	2/32 10	0.0	0.50	\prod	2.5	\Box	19	<u> </u>	22	12/16	7097	1/23/12:00	20	00,00	00	匚	800	##	3:	30,000
BIT]	SIZE		FG. I	TYPE	IADC	SERIAL			ETS (1/32	~~~		BI	T DA	ATA OUT	FOOTAGE	HOURS	ROP		MTR		RPM	I WOB	T 00		ONDITION
NO.				ire	CODE		NO.		or TFA	•			4		rooms	100.0	NOF	'	M '''		+MTR		7	B	G
┝╼┼		+		'	—	 		\dashv		+	+		+			 	#DIV/0		ـــــــــــــــــــــــــــــــــــــ	 	!	 '	\sqcup	لــا	 '
┢┿		+	-+-		 	+	+	\dashv		+	+		+		+	-	#DIV/0		+-	-		 	H	\dashv	
$\vdash \uparrow$		+				+	_	\dashv		+	十		十		+	 	#DIV/0		\vdash	-		 	H	\dashv	
F								一	HYDR	AULI	CS	=	=							F		SLOW	V PU	MP	
PUM		AANUFA	ACTURER	LINER	STROKE	4	SPM	GPI	M	AV DP	AV DO	- 1	PUM! PRES		MTR DIFF	HH	IP / IN²	EC	CD			60 spm	80 s	pm	100 spm
NO 1	十	Nati	ional	6	8.5	2.97	123	36	35		 	+	PRES	<u>s.</u>	PRESS.	 		 		H	1	400	 	+	
2	工		ional	6	8.5	2.97	0	0				1		T						∦	2	400		1	
Bot	h			'		5.94	123	36	j5 <u> </u>	172	189	9	150	10	150					匚					
	*****			RILL ST				二				_			GEOLOGIC				=			GENER			
BO	TOMHL	IOLE ASS	SEMBLY	LENGT	H	O.D.	I.D.	-		RMATION lavajo			MD 5,501	+	5,98		LITHOLO	ÖĞY		Ri	ia No		SINFO		Unit 111
								丁			士				-7		<u> </u>		\neg	-∦I `	ell No		91		45-6671
					工			\Box			\Box			工						₩		OP Test		\Box	1/7
			~ \(\begin{array}{c} \cdot \\ \cdot \cdot \\ \cdot \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \\ \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \\ \cdot \cd	-15	1	41.	1	_		MS UP 1	TIME		G GAS		GAS DATA CONN G		TRIPG			-		OP Test			2/7
			44	4-13	المهال	41117	_	\dashv		53			to 25	<u></u>	0 SHOWS		0		/	11		Safety Me		4	1/23
 			الكال		+		 	-	GAR	(S UNITS	7	FF	ROM	干	10		ROP (FT	7HR)	\neg	₩		OP Drill Operate P		Rail	1/23
	_								<u> </u>		+			+			 		-	11		perate B			
	al BH				0.00							_		工						La	st O	perate A	Annul	lar	1/7
STRE	NG WT.	Br	HA WT.	PU W1	+	ŝo WT.	ROT. TOR	QUE		ELEVATI	ION		то кв 17	+	KB ELEVA 5,75		INTERMEDIA	ATE CS	šG J	F		CASING B28	NE		CASING
_								_					JRVE	YS			1						<u> </u>	<u> </u>	
MD	丁	INCL.	AZMUTH	TVD	SECTION	N N+/S-	E+ / W-	DLS	.8 7	TOOL	MD		INCL		AZIMUTH	<u></u>	TVD	SECT	TION	N+	+ / S-	E+/W-	DL	S	TOOL
<u> </u>	+		 '	 '	├—	 	 	├-	+		 	+		+		 		 		-		 	 	\dashv	,——— <u> </u>
_	<u></u>	<u>—</u>		<u></u>	<u></u>		<u> </u>	<u>—</u>	<u> </u>			ᆣ				<u> </u>		<u>_</u>	_	<u> </u>			<u>—</u>	ᆜ	
FRO	<u>-</u>	то	HRS	24 H	IOURS - M	IDNIGHT TO	MIDNIGHT	_				<u> </u>	AC	TIVIT	<u>*</u>										
0:0	$\overline{}$		'	Lor		Run#2					א 44'	lon	g					_		_	_			_	
<u> </u>		7:30	7.50			Run # 3			8' long	<u>g</u>															
7:34 11:3		11:30 14:00	4.00 2.50			097, top & condi			nill to	<u></u>	• nu												—		
14:0	_	21:30	7.50											OINT	T @ 9:30 p	om 1/23/0	5								
21:3		0:00	2.50			5 1/2" 1							<u> </u>											_	
0:0	_		'									_													
0:0			 -'										—												
0:00			rl	 																					
0:00		-		 																					
0:00																									
0:00	0			Thi	is am.	Running	g pipe																		
0:0			لـــــا	<u> </u>								_													
0:0	_		 -'	 													<u> </u>								
0:0			ــــــا								,														
0.6	+	-																							
Daily	—— √Tota	al al	24.00																	-				—	

MAGT KITE

		Engin	eering	& Sup	pervisio	n	ı	EXAC	CT	Eng	jin	eeri	ng, Inc	•			(9	18) 5	99-940)	
Opera	tor: V	/olverine	G&O C	o of Uta	h, LLC		DA	ILY	DI	RIL	LII	NG	REPO	RT		24 hr	18 - Г	nidniç	jht to mi	_	
DATE	4/05	WELL \A/ol	verine F	odoro	1472	CONTRA		it Rig#	1111				UNTY, STATE EVIET, UT	SPUD DATE	1	AP#		6	SUPERV	isor arren N	avior
DAYS F/S			T OPERATI	ONS @ M	IDNIGHT	L		DEPTH	-111		GRE		DRILL	ING TIME	ROP			MATION	AU	TH. DEPT	1
	6	<u> </u>	RI	G DO	WN		<u> </u>	7,100				50	0	.00	#DIV/C)!		Nava	jo	6550' /	7100'
WT	<u> </u>	VIS.	WL		CK F	н	SAND	SOL	IDS %		UD I	DATA YP	GEL6	DEPTH	DATE/TIME	СНІ	LORID	ES	CALCIUM	MBT	SALT PPM
			Ļ										1	<u> </u>		<u> </u>					
BIT S	ZE MI	-G.	TYPE	IADC	SERIAL	NO.	JET	S (1/32nd")			NT D	ATA	FOOTAGE	HOURS	ROP		MTR	RPM	WOB	DULL	CONDITION
NO.				CODE	 			or TFA		0.7	<u></u>	1 (117)	150-51	1 3 1	#50.46			RT+MT	R	ТВ	G
\vdash				<u> </u>	+		\dashv				-				#DIV/0		Н			 -	-
											4				#DIV/0						
				<u> </u>	<u> </u>							<u> </u>	<u> </u>	<u> </u>	#DIV/0) į	Ш		<u> </u>	LL.	<u></u>
PUMP	MANUE	CTURER	LINER	OTBOY!	GAL/STK	SPM	H [*] GPM	YDRAU AV D	_	S AV DC	D 1	MP	MTR DIFF	T UL	P/IN ²	EC	ý	-		N PUMI	100 spm
NO.	MANUFA	CIONER	LINER	LENGTH	1	or m	GFM	1		AV DC	i .	ESS.	PRESS.						00 april	, 00 spii	100 3011
1		onal	6	8.5	2.97				+		ļ	_		 		 			. 	 	 i
2 Both	Nati	ional	6	8.5	2.97 5.94			+	+		-	-				┼				<u> </u>	1
	<u> </u>	Б	RILL ST	RING	1 0.04		_						GEOLOGI	C		<u></u>			GENE	ZAL IN	0
вотто	MHOLE AS	SEMBLY	LENGT	н	O.D.	I.D.	1	FORMA	TION	1	MĐ	T	TVI		LITHOL	OGY			,	3 INFO	
 			ļ			ļ	\dashv	Nava	ajo	+	6,50	1	5,98	34				Rig N		018.	Unit 111 645-6671
·					0 1		\dashv			+		十		 	 				BOP Tes		1/7
		~+1	-1")		IIII			зоттом в т	UP TIM	ME E	G GA	13	GAS DATA	GAS	TRIP	3AS		Next	BOP Te	st	2/7
ļ	-c	MH	THU	LYN	11115	<u> </u>	_	53	3	1	to 2	25	0 shows		0				Safety M		1/23
 								GAS UN	NITS	-	FROM	-	TO		ROP (F	THR)	\exists	-	BOP Dril Operate		1/23 r 1/23
	······································	·-···		_			-			+		\dashv		· · · · · ·	<u> </u>		\dashv		Operate		
Total				0.00		. w. 17													Operate		
STRING	WT. B	HA WT.	PU W	<u>r. </u>	SO WT.	ROT. TO	RQUE	GRD. ELEV		N G	17	КВ	KB ELEV		INTERMEDI	ATE CS	SG		CASING	+	TD
							n_			3		/EYS			<u> </u>						
MD	INCL.	AZIMUTH	TVD	SECTIO	N+/S-	E+/W-	DLS	TOO	<u> </u>	MD	iN	CL.	AZIMUTH	-	TVD	SEC	TION	N+/S	E+/W-	DLS	TOOL
 -				 	 		-		╫		-	+		 		╁			 	 	-
										DAIL	YA	CTIVI	ΙΥ			느				.L	
FRÓM	TO	HRS			IDNIGHT TO																
0:00							******								5.38' of 6 1 ar set @ 7						
6:00	6:00	6.00													OM 7100 -						
6:00	7:00	1.00			ondition																
7:00	9:30	2.50													red d	ye fo	or m	arker	in last 1	0 bbls	Calc TC
9:30	14:00	4.50			100 % S								E RIG 14:	00 1/24/0	5						
14:00 0:00	0:00	10.00	RIG	dowi	prepar	a iot iii	ove it	O VVF #	17-4	4 (810	יטו	on una	s pau)								
0:00																					
0:00																					
0:00						OGM, U	tah D	Division	of F	Radia	tion	Cont	rol & US N	uclear Re	gulatory A	genc	y (N	IRC)	notified	and ap	proved ti
0:00		ļ		andon te: An		4-5 day	s for	rig mov	ve &	Spuc	1. R	kig do	wn, set out	& ria up r	equired du	e to	bac	kwan	ds rig m	ove.	
0:00													ying rig for								
0:00																					
0:00	.	 	FIN	IAL D	RLG RE	PORT	THIS	WELL	0	FF R	EPI	T UNT	IL COMPL	ETION B	EGINS AF	TER	AL	L WE	LLS DR	RILLED	THIS P
0:00	 	 	AF	E DHO	C below	does n	ot inc	dude si	upnl	emer	ital 4	corino	AFE for \$	466.000							
Daily 1	otal	24.00					<i>3.</i> 0		<u> </u>	J			, .	,							

PARTNATA

Form 3160-5 (April 2004)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

					Ċ
ĺ					Ex
—	Ŧ	_	$\overline{}$	•	

FORM APPROVED OM B No. 1004-0137 Expires: March 31, 2007 Lease Serial No.

UTU-73528

017

SUNDRY NOTICES AND REPORTS ON WELLS

6. If Indian, Allottee or Tribe Name Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals. 7. If Unit or CA/Agreement, Name and/or No. SUBMIT IN TRIPLICATE- Other instructions on reverse side. 1. Type of Well Oil Well Wolverine Fed Exploration Unit Gas Well Other Well Name and No. Wolverine Federal #17-3 2. Name of Operator Wolverine Gas & Oil Co of Utah, LLC API Well No. 43-041-30036 3a. Address 3b. Phone No. (include area code) One Riverfront Plaza, 55 Campau NW, Grand Rapids, MI 616-458-1150 10. Field and Pool, or Exploratory Area Exploratory 4. Location of Well (Footage, Sec., T., R., M, or Survey Description) 11. County or Parish, State SHL: 1680' FNL & 2233' FWL BHL: 1980' FSL & 660' FWL Sevier Co, UT 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION Acidize Production (Start/Resume) Water Shut-Off Deepen Notice of Intent Alter Casing Reclamation Well Integrity Fracture Treat Casing Repair Other Suspend Operations Subsequent Report New Construction Recomplete Change Plans Plug and Abandon Final Abandonment Notice Convert to Injection ☐ Plug Back Water Disposal 13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.) Drilling operations were completed on Jan 24, 2005 Operations will be suspended until additional (total 5 wells) permitted wells can be drilled from the same drilling pad location, at which time completion operations will commence as soon thereafter as a well service rig becomes available. This well is secured with a cap flange. PLEASE MAINTAIN ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL - thank you DIV. OF OU. GAS & MINING I hereby certify that the foregoing is true and correct Name (Printed/Typed) Steven R Hash Title Consulting Engineer - EXACT Engineering Inc

04/18/2005 Signature Date THIS SPACE FOR FEDERAL OR STATE OFFICE USE Accepted by th Utah Division OfDate om Oil Gas and Mining Federal Approval Of This Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease Action Is Necessary which would entitle the applicant to conduct operations thereon. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person lead the States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdia. artment or agency of the United and willfully to make to any de

(Instructions on page 2)

CONFIDENTIAL

4304/30036 235 0/W 17



WOLVERINE GAS AND OIL COMPANY

of Utah, LLC

Energy Exploration in Partnership with the Environment

August 23, 2005

Ms. Diana Whitney Utah Division of Oil, Gas & Mining 1594 W. N. Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Wolverine Federal 17-3 Well

Completion Report

Dear Al:

Enclosed please find the Completion Report (form #8) for the captioned well. Attached to the report are the following documents:

- Addendum #1 Electric & Mechanical Log List
- Addendum #2 Perforation Details
- Directional Survey
- Core Descriptions
- Geologic Report

lu Bardfr-

Logs

Please keep this report and all attachments confidential. If you have any questions or concerns, please feel free to contact me.

Sincerely,

Helene Bardolph

enclosures

RECEIVED

AU 2 3 2003

DIV. OF OIL, GAS & MINING

STATE OF UTAH

,		AM	END	ED	RE	POR1	r 🗀]	FC	ORM 8
	ı	(hig	ghlig	ht d	chai	nges)			IAL NUMB	
			JTU				AND	SER	OAL NOME	EK.
		6. IF	INDI	AN,	ALL	OTTEE (OR T	RIBE	NAME	
						REEMEN e Fec				
						e Fec		al ¹	17-3	
			PI NU 430			036				•
)						ol, or v		CAT		
_								NSF	IIP, RANGI	Ε,
			WS				3S		w s	
74			cour Sevi				٦	13.	STATE	UTAH
JC	ε	V		ELE	VATI 752	ONS (DI	F, RK	в, г 75:	RT, GL):	;
۷N	ΛAI	VY? *	21.	DEP	TH E	RIDGE SET:	М	D	-,	
_								VD		
		NO		١	/ES	\mathbf{V}			analysis)	
		NO NO			/ES				report) copy)	
_										
	V	SLUI		L)	CE	MENT 1	ГОР	**	AMOUNT	PULLED
2					s	urfac	ес	ir		
5			75_			urfac		_		
2			36			3600				
긱		14	<u>49</u> _	_	4	,830	СВ	느	_	
+								_		
	-	75			EDT	U OET (140)		DACKED	PET (MD)
	51	ZE		۲	EPI	H SET (MU)	╁	PACKER S	SET (MD)
_								_		
Į	s	IZE	NO.	HOL	.ES		ERF	_	TION STA	TUS
Ŧ		_	<u> </u>			Open	씯		iqueezed	
ł			<u> </u>			Open	븜		queezed	<u>H</u> _
+		-	-			Open	片		queezed	
Ĺ			<u> </u>			Оран	<u> </u>	_	400000	
								_		
0	ga	al.						_		<u></u>
_										

							L RESO								hanges)		=	
		ט	ivisi	ION O	- OIL,	GAS	AND N	/IININ	G				ļι	JTU-7:				BER:
WEL	L COMP	LET	ION	OR F	RECC	MPL	ETIO	N RI	EPOR	T AND	LOG		6. IF	INDIAN, A	ALLOTTEE ()R TRI	BE NAME	
1a. TYPE OF WELL	<i>:</i>	Oil WE			GAS D		DRY [отн	R			1		AGREEMEN rine Fed			•
b. TYPE OF WORI	K: HORIZ. LATS.	DE EN	EP-	ן נ	RE- ENTRY		DIFF. RESVR.		отн	R Well	Comple	tion			e and NUME		17-3	
2. NAME OF OPER. Wolverine		Oil Co	ompa	ny of l	Jtah, L	LC								13041	:R: 30036			
3. ADDRESS OF OR 55 Campau		CI.	⊤y Gr	and R	apids	STATE	MI	ZIP 49	503		NUMBER: 6) 458-1	150	(Coven	POOL, OR V	d		
4. LOCATION OF W AT SURFACE:	-		,233'	FWL						6.79		·		TRIOTR MERIDIAN VSW	SECTION, 1	TOWN:		
AT TOP PRODU	CING INTERVA	L REPOR	TED BE	Low: 5	62' FV	VL & 2	2152' F	SL			Sant I i							
AT TOTAL DEPT	гн: 435' F	WL &	2013	'FSL										evier			3. STATE	UTAH
14. DATE SPUDDEI 12/10/2004		DATE T.I 1/17/2		CHED:		E COMPL 2005	ETED:		ABANDON	:D 🔲	READY TO F	RODUC	Z		ATIONS (DE 52,575			6
18. TOTAL DEPTH:	MD 7.15 TVD 6.60			19. PLUG	BACK T.		7,024 6,479		20. IF N	IULTIPLE CO	OMPLETIONS	, HOW M	IANY?*		TH BRIDGE UG SET:	MD TVI)	
22. TYPE ELECTRI	C AND OTHER I	MECHANI	CAL LO	GS RUN (Submit ∞	oy of each)			23.								
see addend	um #1									WAS DST	L CORED? RUN? NAL SURVEY	7	NO NO NO	∑ i	TES 🔽 TES 🔲 TES 🔽	(Sub	nit analysis) nit report) nit copy)	
24. CASING AND L	INER RECORD	(Report a	ill string	s set in w	ell)													-
HOLE SIZE	SIZE/GRAD	DE !	WEIGHT	T (#/ft.)	ТОР	(MD)	воттом	M (MD)		EMENTER PTH	CEMENT T NO. OF SA		SLUF		CEMENT 1	TOP **	AMOUN	T PULLED
30	20		.25"	wall	()	12	23			class G	620			surfac	e cir		
17.5	16 H	-40	6	5	()	61	15			AG300	855	17	5	surfac	e cir		
12.25	9 5/8 P	110	4	7	()	5,8	28			50/50	730	18	6	3600	Cal		
8.5	5 1/2 L	.80	1	7			7,1	00			50/50	680	14	9	4,830	CBL		
																	<u> </u>	
25. TUBING RECO	RD																	
SIZE	DEPTH SE		PACE	KER SET (MD)	SIZE		DEPTH	SET (MD)	PACKE	R SET (MD)		SIZE	DI	EPTH SET (MD)	PACKER	SET (MD)
2 7/8	6,5	51	L	h.										i_	<u></u>			
26. PRODUCING IN											RATION REC							
FORMATION	NAME	TOP (+	M (MD)		(TVD)		M (TVD)	INTERVA	L (Top/Bot - N	4D)	SIZE	NO. HOL			RATION STA	ATUS
(A) Navajo		6,4	98	1,	150	5,8	975	6,6	603						_		Squeezed	<u> </u>
(B)				1-											Open	屵	Squeezed	<u> </u>
(C)				↓		<u> </u>						-+			Open	屵	Squeezed	屵
(D)				1	·	<u></u>						l_			Open	<u>Ц</u>	Squeezed	<u> </u>
28. ACID, FRACTU		IT, CEME	NT SQU	EEZE, ET	C.					N INIT AND T	705 OF 141 T	FOLAL						
·	INTERVAL			/00/		<u> </u>		1 40/			YPE OF MAT							
6590-6709			_								Total -	1900 (gaı.					
6590-6709			15%	o NCFE	HUL	N/5UU	ball se	alers	Total	- 4600 c	lai ————————————————————————————————————							
29. ENCLOSED AT	TACHMENTS:					1						-			30). WEL	L STATUS:	
	RICAL/MECHAN			O CEMENT	VERIFIC	ATION		GEOLOGI CORE AN	IC REPOR		OST REPORT		DIREC	FIONAL S			roduc	ing
· · · · · · · · · · · · · · · · · · ·																11/	ロロ	

(CONTINUED ON BACK)

RECEIVED **358** 2 5 2005

Completion Procedure (new well)
WOLVERINE GAS & OIL CO of UTAH, LLC
Wolverine Federal #17-3
1680' fnl & 2233' fwl of Sec
Sec 17 T23S – R01W
Sevier Co., UT

July 15, 2005 API# 43-041-30036 GL: 5736 KB: 5753 Spud: 12/10/2004 TD: 01/17/05 RR: 01/24/05

Well Data:

Conductor casing: 20" @ 123' bgl w/ 620 sx class G cmt, full circ

Surface casing: 16" 65ppf H40 BTC new (14 jts) set @ 615' kb with 855 sx of AG300 cmt mixed @

15.8ppg & 1.15 cfps. Circ 25 bbls to pit. TOC at surface.

Intermediate casing: 9-5/8" 47ppf HC-P110 LTC 8rd new (125 jts) set @ 5828' kb with 730 sx of 50:50 POZ.

Good circ throughout, TOC unknown.

Production casing: 5-1/2" 17.0ppf L80 LTC 8rd (172 jts) set @ 7100' (incl marker jt @ 6030 - 6050 kb)

with 680 sx 50:50 POZ.

PBTD: TD 7150'; FS @ 7100; FC @ 7046', PBTD 7046'. Hole full of fresh, untreated water.

Casinghead: 9-5/8" SOW x 11" 5m

Tubinghead: 11" 5m x 7-1/16" 5m w/ (2) 2-1/16" 5m FE casing valves

Wellhead: 7-1/16" 5m x 7-1/16" 3m GT6 adapter spool w/ hammer nut; 2-7/8" 6.5 EUE tbg nipple,

2-9/16" 5M gate valve w/ 2-7/8" EUE run x 2" LP x 1" LP flow cross.

Casing specs: 5-1/2" 17.0ppf L80 id: 4.892" drift: 4.767"

collapse: 6280 psi burst: 7740 psi

weak pt collapse @ TOC @ ~5000'; weak pt burst @ surface

maximum allowable casing pressure = 6200 psig max w/ csg saver; 5000 psi w/o

Capacity: 5-1/2" 17.0ppf: 0.02324 bbl/ft 0.1305 cuft/ft

Tubing specs: 2-7/8" 6.5ppf N80 EUE 8rd API new

id: 2.441 drift: 2.347 cplg od: 3.668 collapse: 11160 psi (80%=~8900psig max) burst: 10570 psi (80%=~8400 psig max)

pull=144,960 lbs (80%= 116,000 lbs max) 116-46=70,000# max ind wt if on btm

Capacity: 2-7/8" 0.005794 bbl/ft 0.03253 cuft/ft
Annulus: 2-7/8 x 5-1/2 = 0.01521 bbl/ft 0.0854 cuft/ft

Proposed perfs:

set	Zone	Interval	Ft	Density	# holes	Phasing	Diam	Pene
(1)	Upr Navajo 1	6590-6600	10	6 jpf	60	60	.41	45"
(2)	Upr Navajo 1	6615-6619	4	6 jpf	24	60	.41	45"
(3)	Upr Navajo 1	6632-6644	12	6 jpf	72	60	.41	45"
(4)	Upr Navajo 1	6654-6662	8	6 jpf	48	60	.41	45"
(5)	Upr Navajo 1	6671-6678	7	6 jpf	42	60	.41	45"
(6)	Upr Navajo 1	6702-6709	7	6 jpf	42	60	.41	45"
	total	119 gross	48		288			

ADDENDUM #1

Electric & Mechanical Log List

Wolverine Federal 17-3 1680' FNL & 2233' FWL, Sec 17, T23S, R1W Sevier County, Utah API# 43-041-30036

Six Arm Dipmeter Monitor Log
Dual Laterolog MSFL - MD
Dual Laterolog MSFL - TVD
Spectral Density Dual Spaced Neutron - MD
Spectral Density Dual Spaced Neutron - TVD
Spectral Density Dual Spaced Neutron Limestone Matrix - MD
Spectral Density Dual Spaced Neutron Limestone Matrix - TVD

ADDENDUM #2

Perforation Details

Wolverine Federal 17-3 1680' FNL & 2233' FWL, Sec 17, T23S, R1W Sevier County, Utah API# 43-041-30036

Perforations:

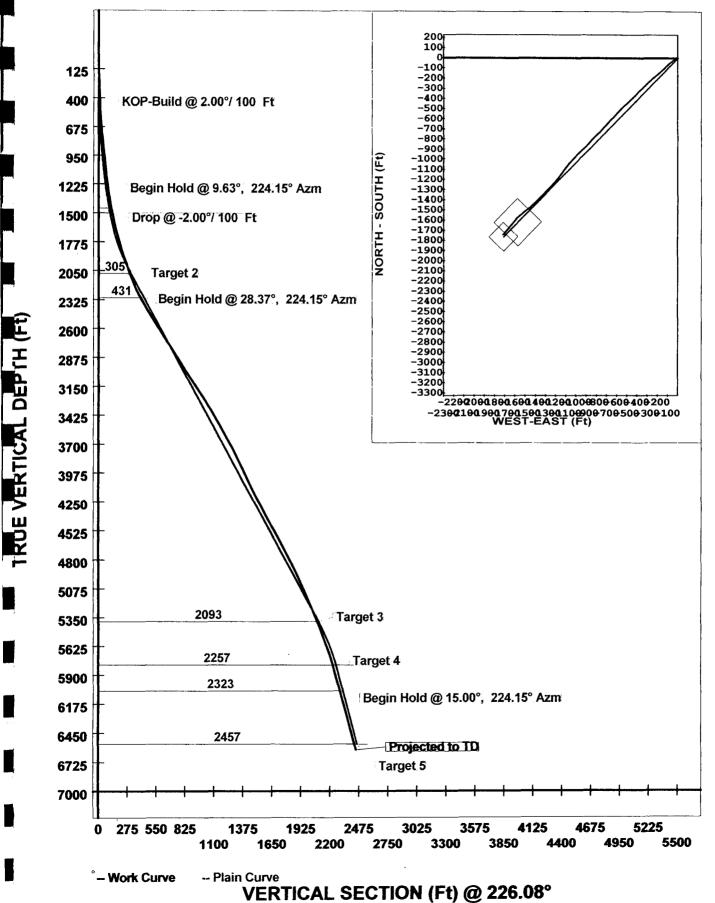
(1)	Upr Navajo 1	6590-6600	10	6 ipf	60	0	.41	45"
(2)	Upr Navajo 1	6615-6619	4	6 jpf	24	60	.41	45"
(3)	Upr Navajo 1	6632-6644	12	6 jpf	72	60	.41	45"
(4)	Upr Navajo 1	6654-6662	8	6 jpf	48	60	.41	45"
(5)	Upr Navajo 1	6671-6678	7	6 jpf	42	60	.41	45"
(6)	Upr Navajo 1	6702-6709	7	6 jpf	42	60	.41	45"
, ,	, ,	total 119 gross	48		288			

Company: Wolverine Oil & Gas Co. of Utah, LLC

Lease/Well: Federal 17-3 Location: South Sigurd

State/Country: Sevier Co. Ut.





Job Number: WYL1204D229

State/Country: Sevier Co. Ut.

Company: Wolverine Oil & Gas Co. of Utah, LL Oeclination: 12.95

Lease/Well: Federal 17-3

Grid:

Location: South Sigurd Rig Name: Unit 111

File name: A:\17-3.\$VY
Date/Time: 02-Feb-05 / 09:18

RKB: 17°

Weatherford

Curve Name: Work Curve

G.L. or M.S.L.:

WINSERVE SURVEY CALCULATIONS Minimum Curvature Method

Vertical Section Plane 226.08 Vertical Section Referenced to Wellhead Rectangular Coordinates Referenced to Wellhead

Measured Depth	inci Angle	Drift Direction	Course Length	True Vertical	N-S	E-W	Vertical Section	Dogleg Severity		Direction
FT	Deg	Deg	FT	Depth	FT	FT	FT	Deg/100	FT	Deg
20	00	20								
.00	.00	.00	400.00	.00	.00	.00	.00	.00	.00	.00
162.00	.20	292.60	162.00	162.00	.11	26	.11	.12	.28	292.60
222.00	.80	250.40	60.00	222.00	.01	75	.54	1.11	.75	270.64
316.00	2.00	248.70	94.00	315.97	81	-2.90	2.65	1.28	3.01	254.43
408.00	2.80	246.40	92.00	407.89	-2.29	-6.45	6.24	.88	6.85	250.46
499.00	3.30	229.20	91.00	498.76	-4.89	-10.47	10.94	1.14	11.56	244.96
548.00	3.90	233.60	49.00	547.66	-6.80	-12.88	14.00	1.35	14.57	242 .16
651.00	4.90	239.50	103.00	650.36	-11.11	-19.49	21.75	1.06	22.44	240.31
742.00	5.50	245.30	91.00	740.98	-14.91	-26.80	29.65	.88	30.67	240.92
831.00	6.40	242.00	89.00	829.50	-19.02	-35.06	38.45	1.08	39.88	241.52
920.00	6.70	238.50	89.00	917.92	-24.06	-43.86	48.29	.56	50.03	241.25
1011.00	6.20	236.20	91.00	1008.35	-29.57	-52.47	58.31	.62	60.23	240.60
1103.00	6.00	228.30	92.00	1099.83	-35.53	-60.19	68.00	.94	69.90	239.45
1195.00	6.70	227.10	92.00	1191.26	-42.38	-67.71	78.17	.77	79.88	237.96
1286.00	8.40	228.10	91.00	1281.47	-50.44	-76.55	90.13	1.87	91.67	236.62
4070.00										
1379.00	9.20	227.60	93.00	1373.37	-59.99	-87.10	104.35	.86	105.76	235.44
1470.00	11.00	228.30	91.00	1462.96	-70.67	-98.95	120.29	1.98	121.60	234.47
1561.00	12.80	228.60	91.00	1552.00	-83.11	-113.00	139.04	1.98	140.27	233.67
1653.00	14.20	227.10	92.00	1641.46	-97.53	-128.91	160.51	1.57	161.65	232.89
1745.00	15.60	224.90	92.00	1730.36	-113.98	-145.91	184.16	1.64	185 .15	232.00
4020.00	46.60	000.00	00.00	4040.70	404.00	404.70	000 00	4.54	040.00	004.07
1838.00	16.60	228.60	93.00	1819.72	-131.62	-164.70	209.93	1.54	210.83	231.37
1928.00	18.00	228.50	90.00	1905.64	-149.34	-184.76	236.67	1.56	237.57	231.05
2021.00	18.70	230.60	93.00	1993.91	-168.32	-207.04	265.89	1.04	266.83	230.89
2083.00	20.10	230.70	62.00	2052.39	-181.38	-222.97	286.42	2.26	287.42	230.87
2144.00	21.60	229.30	61.00	2109.40	-195.34	-239.59	308.08	2.59	309.13	230.81

	Measured Depth FT	Incl Angle Deg	Drift Direction Deg	Course Length FT	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	CLOS Distance FT	
A -											
ll .	2206.00	23.10	227.20	62.00	2166.74	-211.05	-257.17	331.63	2.74	332.68	230.63
-	2268.00	24.80	226.70	62.00	2223.40	-228.23	-275.56	356.80	2.76	357.80	230.37
я	2329.00	26.90	226.90	61.00	2278.29	-246.43	-294.95	383.39	3.45	384.35	230.12
	2391.00	28.80	225.10	62.00	2333.11	-266.56	-315.77	412.35	3.35	413.24	229.83
ı	2483.00	31.10	224.50	92.00	2412.82	-299.16	-348.12	458.27	2.52	459.00	229.33
_	2575.00	31.70	224.40	92.00	2491.34	-333.37	-381.69	506.18	.65	506.78	220 07
l	2667.00	31.70	225.50	92.00	2569.53	-367.68	-301.09 -415.94	554.65	.63 .67	555.15	228.87 228.52
•	2758.00	32.40	225.50	91.00	2646.58	-401.62	-450.48	603.07	.57 .55	603.52	228.28
	2850.00	32.50	227.60	92.00	2724.22	-435.57	-486.31	652.43	1.23	652.85	228.15
1	2942.00	33.20	226.70	92.00	2801.51	-469.51	-522.89	702.32	.93	702.75	228.08
	2072.00	00.20	220.10	32.00	2001.01	-103.01	-022.03	102.52	.90	102.13	220.00
	3035.00	32.70	224.60	93.00	2879.55	-504.86	-559.06	752.89	1.34	753.28	227.92
Ì	3126.00	32.00	223.40	91.00	2956.43	-539.88	-592.89	801.55	1.04	801.87	227.68
	3219.00	33.20	221.90	93.00	3034.77	-576.74	-626.83	851.56	1.56	851.78	227.38
-	3311.00	33.00	221.40	92.00	3111.84	-614.28	-660.22	901.66	.37	901.79	227.06
	3402.00	33.80	221.60	91.00	3187.81	-651.79	-693.41	951.59	.89	951.66	226.77
5	3464.00	33.60	222.50	62.00	3239.40	-677.34	-716.45	985.90	.87	985.94	226.61
	3524.00	32.00	223.70	60.00	3289.83	-701.07	-710. 4 5 -738.65	1018.36	2.88	1018.39	226.50
1	3586.00	29.90	225.10	62.00	3343.00	-723.86	-760.95	1050.23	3.58	1050.25	226.43
	3647.00	30.30	226.40	61.00	3395.77	-745.20	-782.86	1080.82	1.25	1080.84	226.41
OF .	3708.00	30.20	225.10	61.00	3448.47	-766.65	-804.88	1111.55	1.09	1111.56	226.39
	3700.00	30.20	225.10	01.00	J-1-0 <i>1</i>	-700.00	-004.00	1111.55	1.03	1111.50	220.00
	2770.00	20.70	224.40	CO 00	2504.00	700.00	000 00	4440.00	00	4440.07	200 25
u.	3770.00	30.70	224.40	62.00	3501.92	-788.96	-826.99	1142.96	.99	1142.97	226.35
	3839.00	29.50	221.80	69.00	3561.61	-814.21	-850.64	1177.51	2.57	1177.51	226.25
4	3901.00	28.60	222.80 222.70	62.00	3615.81	-836.48	-870.90	1207.55	1.65	1207.55	226.15
	3962.00	28.80 27.30	222.70 225.10	61.00 83.00	3669.32	-857.99	-890.79	1236.79 1275.78	.34 2.26	1236.79 1275.78	226.07 226.01
•	4045.00	27.30	223.10	03.00	3742.57	-886.12	-917.83	1215.16	2.20	1273.70	220.01
4	4136.00	26.10	224.60	91.00	3823.87	-915.11	-946.67	1316.66	1.34	1316.66	225.97
	4228.00	25.60	224.60	92.00	3906.66	-943.67	-974.83	1356.76	.54	1356.76	225.93
•	4320.00	25.20	224.10	92.00	3989.77	-971.89	-1002.42	1396.20	.49	1396.21	225.89
	4412.00	25.10	223.20	92.00		-1000.18		1435.27	.43	1435.28	225.83
ŀ	4474.00	25.90	223.20	62.00	4129.01	-1019.63		1461.92	1.29	1461.94	225.78
1	, , , , , ,	20.00		02.00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
_	4535.00	26.70	221.40	61.00		-1039.63		1488.89	1.85	1488.92	225.71
	4597.00	27.50	218.30	62.00		-1061.31		1516.96	2.62	1517.01	225.60
1	4658.00	28.20	216.00	61.00		-1084.02		1545.10	2.10	1545.19	225.45
	4719.00	28.40	214.80	61.00		-1107.59		1573.52	.99	1573.68	225.27
1	4780.00	28.40	215.40	61.00	4400.19	-1131.33	-1134.58	1602.00	.47	1602.24	225.08
,	4044.00	20.22	245.00	64.00	4450.00	4455.00	4454 74	1620.04	4 54	1624 20	224.04
	4841.00	29.30	215.80	61.00		-1155.26		1630.94	1.51	1631.28	224.91
1	4902.00	29.80	217.00	61.00		-1179.47		1660.60 1600.65	1.27	1661.04	224.76
ļ	4963.00	29.70	218.80	61.00			-1188.16	1690.55	1.47	1691.09	224.64 224.55
1	5024.00	28.90	220.70	61.00		-1226.31	-1207.24	1720.22	2.01	1720.83	224.50 224.50
1	5086.00	28.20	221.90	62.00	4007.30	-1248.57	-1226.79	1749.75	1.46	1750.42	ZZ4.0V
	5147.00	27.40	224.80	61.00	4721 27	-1269.26	-1246.31	1778.16	2.58	1778.85	224.48
	5208.00	27.20	225.10	61.00		-1289.06	-1266.08	1806.13	.40	1806.83	224.48
	5269.00	26.10	223.90	61.00	4829.99	-1308.57	-1285.26	1833.48	2.01	1834.19	224.49
}	5331.00	26.00	223.90	62.00		-1328.19	-1304.14	1860.69	.16	1861.41	224.48
	5391.00	25.30	225.60	60.00		-1346.64	-1322.42	1886.65	1.69	1887.38	224.48
	0001.00	20.00		JU.00		.5.5.6					

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	Course Length FT	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	CLOS Distance FT	SURE Direction Deg
5453.00	24.20	226.50	62.00	4996.08	-1364.65	-1341.10	1912.60	1.88	1913.33	224.50
5515.00	23.80	225.60	62.00	5052.72	-1382.15	-1359.26	1937.82	.87	1938.54	224.52
5576.00	23.90	224.60	61.00	5108.52	-1399.56	-1376.73	1962.48	.68	1963.20	224.53
5637.00	23.40	224.20	61.00	5164.39	-1417.05	-1393.85	1986.94	.86	1987.67	224.53
5699.00	22.70	225.10	62.00	5221.44	-1434.32	-1410.91	2011.21	1.26	2011.94	224.53
5773.00	22.70	227.40	74.00	5289.71	-1454.06	-1431.53	2039.76	1.20	2040.48	224.55
5851.00	22.00	229.70	78.00	5361.85	-1473.70	-1453.75	2069.39	1.44	2070.07	224.61
5942.00	21.00	231.10	91.00	5446.52	-1494.96	-1479.44	2102.64	1.24	2103.25	224.70
6035.00	20.90	230.00	93.00	5533.37	-1516.09	-1505.12	2135.79	.44	2136.33	224.79
6126.00	20.40	229.70	91.00	5618.53	-1536.78	-1529.65	2167.81	.56	2168.30	224.87
6218.00	18.90	229.00	92.00	5705.17	-1556.93	-1553.12	2198.70	1.65	2199.14	224.93
6309.00	14.90	227.20	91.00	5792.22	-1574.56	-1572.84	2225.13	4.43	2225.54	224.97
6400.00	14.80	222.80	91.00	5880.18	-1591.03	-1589.32	2248.43	1.24	2248.85	224.97
6493.00	14.80	219.70	93.00	5970.10	-1608.89	-1604.98	2272.09	.85	2272.55	224.93
6567.00	15.90	219.70	74.00	6041.46	-1623.96	-1617.49	2291.56	1.49	2292.06	224.89
6619.00	15.90	219.70	52.00	6091.47	-1634.92	-1626.59	2305.72	.00	2306.24	224.85
Projected	to TD									
7150.00	15.00	220.00	531.00	6603.27	-1743.53	-1717.23	2446.33	.17	2447.19	224.56

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #1	6619-6644	Cut 25'	Recovered 25'
6619-22	course(lower) graine calcareous cement, fr intergranular porosity	riable, massive, inter du y, hydrocarbon odor, yo	oor sorted, clay matrix,
6622-25	medium(upper) grair calcareous cement, fr intergranular porosit	riable, massive, inter du y, hydrocarbon odor, yo	poor sorted, clay matrix,
6625-28	medium(lower) grain calcareous cement, fr intergranular porosit	riable, massive, inter du y, hydrocarbon odor, yo	poor sorted, clay matrix,
6628-31	medium(upper) grain angular, fair to poor massive, inter dune codor, yellow oil fluo	sorted, clay matrix, cal- leposite, 6-10% intergr	fine to fine grained, sub careous cement, friable, anular porosity, hydrocarbon oil stain, yellow to white milky
6631-34	medium(upper) grain angular, fair to poor massive, inter dune of hydrocarbon odor, ye	sorted, clay matrix, cal- leposite, plant root lets	fine to fine grained, sub careous cement, friable, 6-10% intergranular porosity, light brown oil stain, yellow to

- SANDSTONE-light brown, clear, quartzose, fine(lower) to medium(upper) grained, predominatly very fine to fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, massive, inter dune deposit, mottled with white anhydrite, no oil stain when anhydrite present, 6-10% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, fine(lower) to course(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, live brown oil on sepersation surface, 10-14% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, fine(lower) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded(35deg), poker chipped in part, 10-14% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded(35deg), poker chipped in part, 10-14% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #2	6644-6666	Cut 22'	Recovered 22'
6644-47	(upper) grained, sul cement, friable, cro rubblized in part, be mottled and spotty	o angular, fair to p ss bed lamination anded with silica: oil stain, hydrocan n, yellow to white	artzose, very fine(upper) to medium poor sorted, clay matrix, siliceous s(35deg), poker chipped in part, fracture fill, hard and tight streaks, bon odor, yellow oil fluorescence, milky cut fluorescence, yellow to
6647-50	(upper) grained, sul cement, friable, 8-1 laminations(35deg) strong hydrocarbon	o angular, fair to p 0% intergranular, poker chipped in odor, yellow oil	artzose, very fine(upper) to medium poor sorted, clay matrix, siliceous porosity, cross bed a part, rubblized in part, even oil stain, fluorescence, light brown oil stain, ce, yellow to gold residual ring cut.
6650-53	(upper) grained, pre to poor sorted, clay porosity, cross bed poker chipped in pa	edominately very matrix, siliceous laminations(35de art, rubblized in pa orescence, light b	artzose, very fine(upper) to medium fine to fine grained, sub angular, fair cement, friable, 8-10% intergranular g), 50-60 degree fracture planes, art, even oil stain, strong hydrocarbon rown oil stain, yellow to white milky lual ring cut.
6653-56	(upper) grained, sul cement, friable, 10- laminations(35deg) rubblized in part, ga fracture fill, even or	o angular, fair to p 14% intergranula , 50-60 degree fra as and oil bubblin il stain, strong hyd	artzose, fine(upper) to medium poor sorted, clay matrix, siliceous r porosity, cross bed cture planes, poker chipped in part, g from pores, scattered quartz drocarbon odor, yellow oil

fluorescence, light brown oil stain, yellow to white milky cut fluorescence,

yellow to gold residual ring cut.

6656-59 SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, slabed in part, rubblized in part, gas and oil on fracture faces, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

6659-62 SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, slabed in part, rubblized in part, gas and oil on fracture faces, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

6662-65 SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, slabed in part, rubblized in part, gas and oil on fracture faces, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

SANDSTONE-light brown, white, clear, quartzose, very fine(upper) to fine (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, tight, rubblized in part, quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

6666

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #3	6666-89	Cut 23'	Recovered 22'
6666-69	medium (lower) grai siliceous cement, tigl stain, strong hydroca	ned, sub angular, fair t ht, rubblized in part, qu rbon odor, yellow oil f	uartzose, very fine(upper) to o poor sorted, clay matrix, uartz fracture fill, mottled oil fluorescence, light brown oil ce, yellow to gold residual ring
6669-72	medium (upper) grai siliceous cement, tigl strong hydrocarbon o	ned, sub angular, fair t ht, rubblized in part, quodor, yellow oil fluores	uartzose, very fine(upper) to o poor sorted, clay matrix, uartz fracture fill, even oil stain, scence, light brown oil stain, low to gold residual ring cut.
6672-75	(upper) grained, sub cement, friable, rubb bedded, even oil stair	angular, fair to poor so lized in part,10-14% in n, strong hydrocarbon yellow to white milky	partzose, fine(upper) to medium orted, clay matrix, siliceous ntergranular porosity, cross odor, yellow oil fluorescence, o cut fluorescence, yellow to
6675-78	(upper) grained, sub cement, friable, rubb bedded, even oil stair	angular, fair to poor so lized in part,10-14% in n, strong hydrocarbon yellow to white milky	uartzose, fine(upper) to medium orted, clay matrix, siliceous ntergranular porosity, cross odor, yellow oil fluorescence, cut fluorescence, yellow to
6678-81	(upper) grained, sub cement, friable, rubb bedded, tight in mott odor, yellow oil fluor	angular, fair to poor so lized in part, 8-10% in led zone, mottled oil s	uartzose, fine(upper) to medium orted, clay matrix, siliceous tergranular porosity, cross tain in part, strong hydrocarbon oil stain, yellow to white milky ng cut.

- SANDSTONE-light brown, white, clear, quartzose, fine(upper) to medium (lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, rubblized in part, 8-12% intergranular porosity, cross bedded, tight in mottled zone, mottled oil stain in part, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, white, clear, quartzose, very fine(lower) to very fine (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, tight, clay filled, mottled stain, weak show, thin residual ring.
- SANDSTONE-light brown, white, clear, quartzose, very fine(lower) to very fine (upper) grained, sub angular, fair to poor sorted, clay matrix, dolomite cement, tight, clay filled, no stain, weak to noshow.

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #4	6739-97	Cut 58'	Recovered 58'
6739	massive, weak-no she		aceous, dolomitic, hard, tight, s filled with white calcite, tions.
6742	massive, weak-no she		aceous, dolomitic, hard, tight, s filled with white calcite, tions.
6745	argillaceous, dolomit	ic, hard, tight, massive	ered very fine (lower) sand, e, weak-no show, 60 degree avy to inclined depositional
6748	(lower) sand, argillac	eous, dolomitic, hard, illed with white calcite	silty, sandy, scattered very fine tight, massive, weak-no show, , minor wavy to inclined
6751	(lower) sand, argillac	eous, dolomitic, hard, illed with white calcite	silty, sandy, scattered very fine tight, massive, weak-no show, , minor wavy to inclined
6754		lark red brown, silty, a to inclined depositiona	renaceous, dolomitic, massive, al laminations.
6757		dark red brown, silty, a to inclined depositiona	renaceous, dolomitic, massive, al laminations.
6758	hard, scattered wavy	to inclined depositiona	renaceous, dolomitic, massive, al laminations, 15 degree e, abundant slickensides at

- 6760 SANDSTONE-white, light gray, clear, quartzose, very fine(lower) to very fine(upper) grained, clay matrix, dolomitic cement, firm to hard, tight, no to weak show, massive.
- 6763 SANDSTONE-white, light gray, clear, quartzose, very fine(lower) to very fine(upper) grained, clay matrix, dolomitic cement, firm to hard, tight, no to weak show, massive.
- 6766 SANDSTONE-pink, white, becoming light brown, clear, quartzose, very fine(lower) to fine(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, even light yellow oil fluorescence, light brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-12% intergranular porosity.
- 6769 SANDSTONE-pink, white, becoming light brown, clear, quartzose, very fine(lower) to fine(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, light brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-12% intergranular porosity.
- 6772 SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding oil and gas.
- 6775 SANDSTONE-light brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.
- 6778 SANDSTONE-light brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

- SANDSTONE-light brown, tan, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.
- SANDSTONE-light brown, tan, clear, quartzose, very fine(upper) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.
- SANDSTONE-light brown, tan, clear, quartzose, very fine(upper) to fine(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.
- SANDSTONE-light brown, tan, clear, quartzose, fine(lower) to fine(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.
- SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.
- SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

6797

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #5	6797-6817	Cut 20'	Recovered18.5'
6800	medium(lower) grain siliceous cement, fria brown oil stain, stron	able, cross bedded, 10- ng hydrocarbon odor, b	e, fine(lower) to poor sorted, clay matrix, 16% intergranular porosity, pleeding oil and gas, even cut fluorescence, yellow gold
6803	medium(lower) grain siliceous cement, fria brown oil stain, stron	able, cross bedded, 10- ng hydrocarbon odor, b	e, fine(lower) to poor sorted, clay matrix, 16% intergranular porosity, pleeding oil and gas, even cut fluorescence, yellow gold
6806	medium(lower) grain siliceous cement, fria brown oil stain, stron	able, cross bedded, 10- ng hydrocarbon odor, b	e, fine(lower) to poor sorted, clay matrix, 16% intergranular porosity, bleeding oil and gas, even cut fluorescence, yellow gold
6809	medium(lower) grain siliceous cement, fria brown oil stain, stron	able, cross bedded, 10- ng hydrocarbon odor, b	e, fine(lower) to poor sorted, clay matrix, 16% intergranular porosity, pleeding oil and gas, even cut fluorescence, yellow gold
6812	medium(lower) grain siliceous cement, fria brown oil stain, stror	able, cross bedded, 10- ng hydrocarbon odor, b	e, fine(lower) to poor sorted, clay matrix, 16% intergranular porosity, bleeding oil and gas, even cut fluorescence, yellow gold

residual ring.

- SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.
- SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #6	6817-52	Cut 35'	Recovered 16.7'
6817	medium(lower) grain siliceous cement, fria 16% intergranular po bleeding gas and oil	ned, subangular able, crumbles a prosity, brown o on fracture face	elear, quartzose, very fine(upper) to , fair to poor sorted, clay matrix, and loose in part, cross bedded, 10- oil stain, strong hydrocarbon odor, es, light yellow oil fluorescence, yellow gold residual ring cut.
6820	medium(lower) grain siliceous cement, fria 16% intergranular po bleeding gas and oil	ned, subangular able, crumbles a prosity, brown o on fracture face	clear, quartzose, very fine(upper) to, fair to poor sorted, clay matrix, and loose in part, cross bedded, 10-bil stain, strong hydrocarbon odor, es, light yellow oil fluorescence, yellow gold residual ring cut.
6823	medium(lower) grain siliceous cement, fria 16% intergranular po bleeding gas and oil	ned, subangular able, crumbles a prosity, brown o on fracture face	elear, quartzose, very fine(upper) to, fair to poor sorted, clay matrix, and loose in part, cross bedded, 10-bil stain, strong hydrocarbon odor, es, light yellow oil fluorescence, yellow gold residual ring cut.
6826	medium(upper) grain siliceous cement, fria 16% intergranular po bleeding gas and oil	ned, subangular able, crumbles a prosity, brown o on fracture face	clear, quartzose, fine(upper) to , fair to poor sorted, clay matrix, and loose in part, cross bedded, 10- pil stain, strong hydrocarbon odor, es, light yellow oil fluorescence, yellow gold residual ring cut.
6829	medium(lower) grain siliceous cement, fria 16% intergranular po bleeding gas and oil	ned, subangular able, crumbles a prosity, brown o on fracture face	elear, quartzose, fine(lower) to , fair to poor sorted, clay matrix, and loose in part, cross bedded, 10- pil stain, strong hydrocarbon odor, es, light yellow oil fluorescence, yellow gold residual ring cut.

- SANDSTONE-dark brown, white, clear, quartzose, fine(lower) to medium(lower) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.
- SANDSTONE-dark brown, white, clear, quartzose, fine(lower) to fine(upper) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

_

WOLVERINE GAS & OIL CORPORATION

WOLVERINE FEDERAL#17-3 NW/SW SEC.17.T23S,R1W SEVIER CO., UTAH

GEOLOGIC REPORT

ON

WOLVERINE FEDERAL #17-3 NW/SW SEC.17,T23S,R1S SEVIER CO., UTAH

FOR

WOLVERINE GAS & OIL CORPORATION ONE RIVER FRONT PLAZA 55 CAMPAU NW GRAND RAPIDS, MI 49503-2616

TABLE OF CONTENTS

Well Data summary	1
Formation Tops	2
Formation Evaluation	3
Bit Record	4
Daily Drilling Summary	6
Deviation Surveys	8
Core Descriptions	10
Sample Descriptions	20
January 2005	Roger D. Charbonneau, B .Sc Wellsite Geologist

WELL DATA SUMMARY

WELL NAME WOLVERINE FEDERAL #17-3

OPERATOR WOLVERINE GAS & OIL CORP.

SURFACE LOCATION NW/SW SEC. 17,T23S,R1W

SEVIER CO., UTAH

API# 043-041-30036

WELL CLASIFACATION DEVELOPMENT

COVENENT FIELD

DRILLING CONTRACTOR UNIT #111

WELL LICENCE 043-041-30036

ELEVATION-GROUND LEVEL 5736'

KELLY BUSHING 5753'

SPUD DATE 12-10-04

SURFACE CASING 615' OF 16"

INTERMEDIATE CASING 5810' OF 9 5/8"

PRODUCTION CASING 7050' OF 5 1/2"

HOLE SIZE 17 ½, 12 ¼, 8 ½

SAMPLE INTERVAL 1160-7150

GAS DETECTION 2044-7150

OPEN HOLE LOGS GR,CAL,S-P,DLL,MICRO-

LOG, BHCS, DIP METER

MUD TYPE SATURATED SALT MUD

WELL STATUS AWAITING COMPLETION

FORMATION TOPS

Kelly Bushing 5753'

Formation Prog.(tvd) Spl.Top(md) Spl.Top(tvd) Log Top(md) Log Top(tvd) Sub Sea

Arapien Surface

Twin Creek 5454 6117 5607 6165 5605 +148

Navajo 5820 6501 5977 6499 5974 -221

FORMATION EVALUATION

WOLVERINE GAS & OIL CORPORATION WOLVERINE FEDEREL #17-3 NW/SW SEC. 17,T23S,R1W SEVIER COUNTY, UTAH

The Wolverine Federal #14-3 was the third well drilled in the Covenant Field. Decollement Consulting began sample coverage at 1160' on Unit Rig #111, Dec. 14, 2004. Crews collected 30' lagged samples to total depth. Surface casing (13 3/8") was set to 615' and 12 ¼" drilled to 5828'. Intermediate casing (9 5/8") was set at 5810' and production casing (5 ½") was set to 7050'. Six Cores were cut over the Navajo Sandstone. A full suite of logs were run including the Dip Meter. Gas detection was run from 2044 to 7150'

NAVAJO SANDSTONE 5974 TVD LOG

The Navajo Sandstone was white, clean, light brown, light red orange, quartzose, fine grained (lower) to medium (upper) grained, sub angular to rounded, fair to poor sorted, anhydrite and clay matrix, siliceous and calcareous cement, friable, 12-14% inter granular porosity, 75-100% unconsolidated, strong hydrocarbon odor, brown oil stain, rainbows on wash water, yellow white oil fluorescence, blue white milky cut fluorescence, yellow gold residual ring. There was over 400' of oil saturated reservoir.

CONCLUSION: Oil saturated reservoir-Awaiting Completion.

BIT RECORD

WELL	NAME
#17-3	

WOLVERINE FEDERAL

LOCATION
LUCATION

NW/SW SEC.17,T23SR1W

ST.	RFA	CE	CA	SIN	C
	111111111111111111111111111111111111111	CI.	U .M		L T

616' OF 16"

SPUD DATE

12-10-04

TD DATE

1-17-04

BIT SIZE MAKE TYPE SERIAL# JETS OUT@ FOOTAGE HOURS ACC.HOURS WT RPM PP MUD WT	1 17.5 STC Surface MJ3820 3X24 608 598 16 ½ 16 ½ 25 40 120	2 12 ¹ / ₄ DPI MP54B2 2016038 6X16 3654 3046 90 106 ¹ / ₂ 20 55 1900 9.5	3 12 ¹ / ₄ DPI MP45 2015727 6X16 3724 198 11 117 ¹ / ₂ 20 50 1980 9.9	4 12 1/4 HTC retip retip 3X18 3852 128 4 121 1/2 14 60 1800	5 12 1/4 SEC EBXS125 10683359 3X18 5577 1722 143 1/2 265 37 40 1800 9.8
WUD WI VIS	Water	9.5 33	9.9 36	9.7 49	9.8 51
BIT SIZE MAKE TYPE	6 12 ¼ SEC EBXS125	7 12 ¼	8 8 ½ SEC EBXS20S	9 8 ¼ DPI 401	10 8 1/4 DPI 401
SERIAL# JETS OUT@ FOOTAGE HOURS	10683357 3X24 5828 249 17	XLX-C1 ream&wash	10550452 3X16 6619 791 35 ½	1962036 OPEN 6644 25 11	1962490 OPEN 6666 22 14
ACC. HOURS WT RPM PP MUD WT VIS	282 38 35 1790 9.8 51		317 ½ 45 40 1200 10.0 40	328 ½ 20 70 1060 10.0 37	342 1/2 25 70 1000 10.1 38

BIT RECORD CONTINUED

BIT	11	12	13	14RR
SIZE	8 1/4	8 1/2	8 ½	8 1/2
MAKE	DPI	DPI	DPI	SEC
TYPE	301	CNR77FD	301	EBXS205
SERIAL#	1963121	2016628	1963121	10550452
JETS	OPEN	6X17	OPEN	6X17
OUT@	6689	6739	6817	7150
FOOTAGE	23	79	37	396
HOURS	10 1/2	12	7 ½	10 1/2
ACC. HOURS	353	365	372 1/2	393
WT	17	21	20	35
RPM	55	70	65	40
PP	1000	1020	1230	1440
MUD WT	10.0	10.1	10.1	10.1
VIS	40	46	47	44

DAILY DRILLING SUMMARY

DATE	DEPTH	PROG.	HRS	MUD	VIS	WL	PH	ACTIVITY
12-10-04	559	449	14 1/2	8.4	27	N/C	8.0	Spud,Drill Surface
12-11-04	608	59	2	8.5	39	48+	7.0	Drill&Set Surface
12-12-04	608	Nil	Nil	9.1	51	12	7.0	Wash&Ream Surf.Hole
12-13-04	608	Nil	Nil	9.1	33	20	9.0	Cement Surf. Nipple Up
12-14-04	1189	581	10 ½	9.1	33	20	9.0	Pick up MWD,Drill Out
12-15-04	2079	890	23 1/2	9.2	35	16	8.5	Drill
12-16-04	2663	584	18 1/2	9.0	34	n/c	9.5	Drill.Wiper Trip,Drill
12-17-04	3429	766	23 1/2	9.8	38	44	10.5	Drill
12-18-04	3654	225	13	9.8	34	44	10.5	Drill,Trip-Mud Motor
12-19-04	3852	198	11	9.8+	33	46	10.5	Drill,Motor Twist-off
12-20-04	3852	Nil	Nil	9.9	33	45	10.2	Fishing
12-21-04	3852	Nil	Nil	10.1	36	46	9.0	Fishing
12-22-04	3852	Nil	Nil	10.1	35	42	8.0	Fishing
12-23-04	3875	23	2	10.1	35	42	7.5	Fishing,Drill
12-24-04	3975	100	11 1/2	10.0	35	36	9.5	Trip-Motor,Drill
12-25-04	4147	172	19	10.2+	39	36	10.5	Drill CO-MWD
12-26-04	4270	123	11	10.3	40	19.6	7.5	Drill,Trip-MWD
12-27-04	4529	259	17 1/2	10.3	47	19.2	9.5	Drill
12-28-04	4896	367	23 1/2	10.4	49	22.4	10.5	Drill
12-29-04	5079	183	17 1/2	10.3	45	28.6	10.0	Drill,Wiper Trip
12-30-04	5390	300	23 1/2	10.0+	50	29.8	11.0	Drill
12-31-04	5579	189	15	10.2	48	24.8	8.5	Drill,Trip-Bit
1-1-05	5775	196	12	10.2	48	26	8.5	RIH,Drill
1-2-05	5828	53	4	10.1	49	28	8.3	Drill,Trip-Casing
1-3-05	5828	Nil	Nil	10.1	50	29.8	10.0	Back Ream
1-4-05	5828	Nil	Nil	10.1	44	32	10.5	Back Ream
1-5-05	5828	Nil	Nil	10.3	45	33	8.5	Cond. Mud&Hole
1-6-05	5828	Nil	Nil	10.2	46	32	8.5	Run 9 5/8",Cement
1-7-05	5828	Nil	Nil	10.2	45	32	8.5	Nipple Up
1-8-05	6300	472	18 1/2	10.2+	32	34	10.0	RIH,Drill
1-9-05	6619	319	17	10.1+	40	14.4	8.5	Drill,POOH,Core#1
1-10-05	6643	24	11	10.1	41	12.0	10.0	Cutting Core#1,POOH
1-11-05	6666	23	13 1/2	10.1+	36	14.8	10.8	Lay down 1,RIH,Cut2
1-12-05	6687	21	11	10.0	39	12	11.0	Lay down2,RIH,Cut3
1-13-05	6739	52	5	10.2	38	13.6	5 11.0	Lay down3,Drill 50'
1-14-05	6797	58	8	10.3+	39	8.0	9.2	, ,
1-15-05	6852	55	11 ½	10.1+	39	11.2	2 10.0	Cut5,Lay down5,RIH
1-16-05	6961	109	5	10.1	40	8.0		Cut6,Lay down6,Drill
1-17-05	7150	189	5 1/2	10.3	41	10.	2 9.0	Drill,POOH-Logs
1-18-05	7150	Nil	Nil	10.2	39	12.		•
1-19-05	7150	Nil	Nil	10.2	55	10.	4 8.0	Fish Logging Tools

DAILY DRILLING SUMMARY CONTINUED

1-20-05	7150	Nil	Nil	10.2	46	16	10.8	Rec.7'9"Lay down
1-21-05	7150	Nil	Nil	10.2+	47	12	10.5	Fish Logging Tools
1-22-05	7150	Nil	Nil	10.2	66	10.0	8.8	Rec.33'9" of tool
1-23-05	7150	Nil	Nil	10.2	50	16	10.8	Logging

DEVIATION SURVEYS

Depth	Inclination	Direction
1011	6.2	236.20
1103	6.0	228.30
1195	6.7	227.10
1286	8.4	228.10
1379	9.2	227.60
1470	11.00	228.30
1561	12.80	228.60
1653	14.20	227.10
1745	15.60	224.90
1838	16.60	228.60
1928	18.00	228.50
2021	18.70	230.60
2083	20.10	230.70
2144	21.60	229.30
2206	23.10	227.20
2268	24.80	226.70
2329	26.90	226.90
2391	28.80	225.10
2483	31.10	224.50
2575	31.70	224.40
2667	31.90	225.50
2758	32.40	225.50
2850	32.50	227.60
2942	33.2	226.70
3035	32.70	224.60
3126	32.00	223.40
3219	33.20	221.90
3311	33.00	221.40
3402	33.80	221.60
3464	33.60	222.50
3586	29.90	225.10
3647	30.30	226.40
3708	30.20	225.10
3770	30.70	224.40
3839	29.50	221.80
3901	28.60	222.80
3962	28.80	222.70
4045	27.30	225.10
4136	26.10	224.60
4228	25.60	224.60

DEVIATION SURVEYS CONTINUED

4320	25.20	224.10
4412	25.10	223.20
4474	25.90	223.20
4535	26.70	221.40
4597	27.50	218.30
4658	28.20	216.00
4719	28.4	214.80
4770	28.40	215.40
2441	29.30	215.80
4902	29.80	217.00
4963	29.70	218.80
5024	29.70	220.70
5086	28.20	221.90
5147	27.40	224.80
5208	27.20	225.10
5269	26.10	223.90
5331	26.00	223.90
5391	25.30	225.60
5453	24.20	226.50
5515	23.80	225.60
5576	23.90	224.60
5637	23.40	224.20
5699	22.70	225.10
5773	22.70	227.40
5851	22.00	229.70
5942	21.00	231.10
6035	20.90	230.00
6126	20.40	229.70
6218	18.90	229.00
6309	14.90	227.20
6400	14.80	222.80
6493	14.80	219.70
6567	15.90	219.70
6619	16.67	219.70

CORE DESCRIPTIONS

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec. 17,T23S,R1W Sevier Co., Utah

Core #1	6619-6644	Cut 25'	Recovered 25'
6619-22	course(lower) gra calcareous cemer intergranular por	ained, sub angular, f nt, friable, massive, osity, hydrocarbon o	partzose, very fine(upper) to fair to poor sorted, clay matrix, inter dune deposite, 6-10% odor, yellow oil fluorescence, light by cut fluorescence, yellow to gold
6622-25	medium(upper) g calcareous cemer intergranular por	grained, sub angular, nt, friable, massive, osity, hydrocarbon o	partzose, very fine(upper) to fair to poor sorted, clay matrix, inter dune deposite, 6-10% odor, yellow oil fluorescence, light by cut fluorescence, yellow to gold
6625-28	medium(lower) g calcareous cemer intergranular pore	grained, sub angular, nt, friable, massive, osity, hydrocarbon o	hartzose, very fine(upper) to fair to poor sorted, clay matrix, inter dune deposite, 6-10% odor, yellow oil fluorescence, light y cut fluorescence, yellow to gold
6628-31	medium(upper) g angular, fair to po massive, inter du odor, yellow oil f	grained, predominatloor sorted, clay mate ne deposite, 6-10%	cartzose, very fine(upper) to y very fine to fine grained, sub rix, calcareous cement, friable, intergranular porosity, hydrocarbon rown oil stain, yellow to white milky dual ring cut.
6631-34		-	eartzose, very fine(upper) to

medium(upper) grained, predominatly very fine to fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable,

white milky cut fluorescence, yellow to gold residual ring cut.

massive, inter dune deposite, plant root lets, 6-10% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to

SANDSTONE-light brown, clear, quartzose, fine(lower) to medium(upper) grained, predominatly very fine to fine grained, sub angular, fair to poor sorted, clay matrix, calcareous cement, friable, massive, inter dune deposit, mottled with white anhydrite, no oil stain when anhydrite present, 6-10% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

SANDSTONE-light brown, clear, quartzose, fine(lower) to course(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, live brown oil on sepersation surface, 10-14% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

SANDSTONE-light brown, clear, quartzose, fine(lower) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded(35deg), poker chipped in part, 10-14% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded(35deg), poker chipped in part, 10-14% intergranular porosity, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

Core #2 6644-6666 Cut 22' Recovered 22'

SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bed laminations(35deg), poker chipped in part, rubblized in part, banded with silica fracture fill, hard and tight streaks, mottled and spotty oil stain, hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

- SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 8-10% intergranular porosity, cross bed laminations(35deg), poker chipped in part, rubblized in part, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium (upper) grained, predominately very fine to fine grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 8-10% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, poker chipped in part, rubblized in part, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, poker chipped in part, rubblized in part, gas and oil bubbling from pores, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, slabed in part, rubblized in part, gas and oil on fracture faces, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, slabed in part, rubblized in part, gas and oil on fracture faces, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, 10-14% intergranular porosity, cross bed laminations(35deg), 50-60 degree fracture planes, slabed in part, rubblized in part, gas and oil on fracture faces, scattered quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

SANDSTONE-light brown, white, clear, quartzose, very fine(upper) to fine (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, tight, rubblized in part, quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

Core #3 6666-89 Cut 23' Recovered 22'

- SANDSTONE-light brown, white, clear, quartzose, very fine(upper) to medium (lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, tight, rubblized in part, quartz fracture fill, mottled oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, white, clear, quartzose, very fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, tight, rubblized in part, quartz fracture fill, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, white, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, rubblized in part,10-14% intergranular porosity, cross bedded, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, white, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, rubblized in part,10-14% intergranular porosity, cross bedded, even oil stain, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.

- SANDSTONE-light brown, white, clear, quartzose, fine(upper) to medium (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, rubblized in part, 8-10% intergranular porosity, cross bedded, tight in mottled zone, mottled oil stain in part, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, white, clear, quartzose, fine(upper) to medium (lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, rubblized in part, 8-12% intergranular porosity, cross bedded, tight in mottled zone, mottled oil stain in part, strong hydrocarbon odor, yellow oil fluorescence, light brown oil stain, yellow to white milky cut fluorescence, yellow to gold residual ring cut.
- SANDSTONE-light brown, white, clear, quartzose, very fine(lower) to very fine (upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, tight, clay filled, mottled stain, weak show, thin residual ring.
- SANDSTONE-light brown, white, clear, quartzose, very fine(lower) to very fine (upper) grained, sub angular, fair to poor sorted, clay matrix, dolomite cement, tight, clay filled, no stain, weak to noshow.
- Core #4 6739-97 Cut 58' Recovered 58'
- 6739 SILTSTONE-red brown, silty, sandy, argillaceous, dolomitic, hard, tight, massive, weak-no show, 60 degree fractures filled with white calcite, minor wavy to inclined depositional laminations.
- SILTSTONE-red brown, silty, sandy, argillaceous, dolomitic, hard, tight, massive, weak-no show, 60 degree fractures filled with white calcite, minor wavy to inclined depositional laminations.
- SILTSTONE-red brown, silty, sandy, scattered very fine (lower) sand, argillaceous, dolomitic, hard, tight, massive, weak-no show, 60 degree fractures filled with white calcite, minor wavy to inclined depositional laminations.
- SILTSTONE-light red orange, red brown, silty, sandy, scattered very fine (lower) sand, argillaceous, dolomitic, hard, tight, massive, weak-no show, 60 degree fractures filled with white calcite, minor wavy to inclined depositional laminations.

6751 SILTSTONE-light red orange, red brown, silty, sandy, scattered very fine (lower) sand, argillaceous, dolomitic, hard, tight, massive, weak-no show, 60 degree fractures filled with white calcite, minor wavy to inclined depositional laminations. 6754 SHALE-medium to dark red brown, silty, arenaceous, dolomitic, massive, hard, scattered wavy to inclined depositional laminations. 6757 SHALE-medium to dark red brown, silty, arenaceous, dolomitic, massive, hard, scattered wavy to inclined depositional laminations. 6758 SHALE-medium to dark red brown, silty, arenaceous, dolomitic, massive, hard, scattered wavy to inclined depositional laminations, 15 degree contact surface with under laying sandstone, abundant slickensides at contact. 6760 SANDSTONE-white, light gray, clear, quartzose, very fine(lower) to very fine(upper) grained, clay matrix, dolomitic cement, firm to hard, tight, no to weak show, massive. 6763 SANDSTONE-white, light gray, clear, quartzose, very fine(lower) to very fine(upper) grained, clay matrix, dolomitic cement, firm to hard, tight, no to weak show, massive. 6766 SANDSTONE-pink, white, becoming light brown, clear, quartzose, very fine(lower) to fine(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, even light yellow oil fluorescence, light brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-12% intergranular porosity. 6769 SANDSTONE-pink, white, becoming light brown, clear, quartzose, very fine(lower) to fine(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, light brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-12% intergranular porosity. 6772 SANDSTONE-light brown, clear, quartzose, very fine(upper) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold

residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor,

bleeding oil and gas.

6775 SANDSTONE-light brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

6778 SANDSTONE-light brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

6781 SANDSTONE-light brown, tan, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

6784 SANDSTONE-light brown, tan, clear, quartzose, very fine(upper) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

6787 SANDSTONE-light brown, tan, clear, quartzose, very fine(upper) to fine(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

6790 SANDSTONE-light brown, tan, clear, quartzose, fine(lower) to fine(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor,

bleeding gas and oil.

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(upper) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, even light yellow oil fluorescence, brown oil stain, yellow to gold milky cut fluorescence, yellow gold residual ring cut, 10-14% intergranular porosity, strong hydrocarbon odor, bleeding gas and oil.

Core #5 6797-6817 Cut 20' Recovered18.5'

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

6809

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

6812

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

6814.5

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

6815.5

SANDSTONE-dark brown, clear, quartzose, fine(lower) to medium(lower) grained, sub angular, fair to poor sorted, clay matrix, siliceous cement, friable, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding oil and gas, even yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring.

Core #6

6817-52

Cut 35'

Recovered 16.7'

6817

SANDSTONE-dark brown, white, clear, quartzose, very fine(upper) to medium(lower) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

6820

SANDSTONE-light brown, white, clear, quartzose, very fine(upper) to medium(lower) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

6823 SANDSTONE-dark brown, white, clear, quartzose, very fine(upper) to medium(lower) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

6826 SANDSTONE-light brown, white, clear, quartzose, fine(upper) to medium(upper) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

6829 SANDSTONE-dark brown, white, clear, quartzose, fine(lower) to medium(lower) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

6832 SANDSTONE-dark brown, white, clear, quartzose, fine(lower) to medium(lower) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

6833.7 SANDSTONE-dark brown, white, clear, quartzose, fine(lower) to fine(upper) grained, subangular, fair to poor sorted, clay matrix, siliceous cement, friable, crumbles and loose in part, cross bedded, 10-16% intergranular porosity, brown oil stain, strong hydrocarbon odor, bleeding gas and oil on fracture faces, light yellow oil fluorescence, yellow gold milky cut fluorescence, yellow gold residual ring cut.

SAMPLE DESCRIPTIONS

Wolverine Gas & Oil Corporation Wolverine Federal #17-3 NW/SW Sec.,17.T23S,R1W Sevier Co., Utah

1160-90 SHALE-30% light gray, light gray brown, blocky, slightly calcareous, firm. LIMESTONE-30% light gray brown, silty, lithographic, argillaceous, mudstone. ANHYDRITE-10% white, crystalline, chalky. SILTSTONE-30% light gray, calcareous, argillaceous, anhydritic, firm. 1190-1220 SHALE-50% light gray, light gray brown, blocky, slightly calcareous, LIMESTONE-20% light gray brown, silty, lithographic, argillaceous, mudstone. ANHYDRITE-10% white, crystalline, chalky. SILTSTONE-20% light gray, calcareous, argillaceous, anhydritic, firm. 1220-50 SHALE-30% light gray, light gray brown, blocky, slightly calcareous, firm. LIMESTONE-20% light gray brown, silty, lithographic, argillaceous, mudstone. ANHYDRITE-30% white, crystalline, chalky. SILTSTONE-20% light gray, calcareous, argillaceous, anhydritic, firm. 1250-80 SHALE-30% light gray, light gray brown, blocky, slightly calcareous, firm. LIMESTONE-40% light gray brown, silty, lithographic, argillaceous, mudstone. ANHYDRITE-20% white, crystalline, chalky. SILTSTONE-10% light gray, calcareous, argillaceous, anhydritic, firm. 1280-1310 SHALE-20% light gray, light gray brown, blocky, slightly calcareous, firm. LIMESTONE-50% light gray brown, silty, lithographic, argillaceous, mudstone.

ANHYDRITE-20% white, crystalline, chalky.

SILTSTONE-10% light gray, calcareous, argillaceous, anhydritic, firm.

1310-40 SHALE-20% light gray, light gray brown, blocky, slightly calcareous, firm.

LIMESTONE-50% light gray brown, silty, lithographic, argillaceous, mudstone.

ANHYDRITE-20% white, crystalline, chalky.

SILTSTONE-10% light gray, calcareous, argillaceous, anhydritic, firm.

1340-70 SHALE-10% light gray, light gray brown, blocky, slightly calcareous, firm.

LIMESTONE-40% light gray brown, silty, lithographic, argillaceous, mudstone.

ANHYDRITE-30% white, crystalline, chalky.

SILTSTONE-20% light gray, calcareous, argillaceous, anhydritic, firm.

1370-1400 SHALE-70% light gray, light gray brown, limy, silty, sandy, earthy, blocky, slightly calcareous, firm.

LIMESTONE-10% light gray brown, silty, lithographic, argillaceous, mudstone.

ANHYDRITE-10% white, crystalline, chalky.

SILTSTONE-10% light gray, calcareous, argillaceous, arenaceous, anhydritic, blocky, firm.

SHALE-70% light gray, light gray brown, limy, silty, sandy, earthy, blocky, slightly calcareous, firm.

LIMESTONE-trace% light gray brown, silty, lithographic, argillaceous, mudstone.

ANHYDRITE-10% white, crystalline, chalky.

SILTSTONE-20% light gray, calcareous, argillaceous, arenaceous, anhydritic, blocky, firm.

SHALE-80% light gray, white, limy, silty, sandy, earthy, blocky, slightly calcareous, firm.

ANHYDRITE-20% white, crystalline, chalky.

1460-90 SHALE-70% light gray, green, limy, marly, earthy, blocky, slightly calcareous, firm.

ANHYDRITE-30% white, crystalline, chalky.

1490-1520 SHALE-60% light gray, green, limy, marly, earthy, blocky, slightly calcareous, firm.

ANHYDRITE-40% white, crystalline, chalky.

1520-50 SHALE-70% light gray, limy, marly, earthy, blocky, silty, firm. ANHYDRITE-30% white, crystalline, chalky. 1550-80 No Sample 1580-1610 No Sample 1610-40 SHALE-80% light gray, light gray green, silty, slightly calcareous, marly. ANHYDRITE-20% white, crystalline, chalky. 1640-70 SHALE-80% light gray, light gray green, silty, slightly calcareous, marly. ANHYDRITE-20% white, crystalline, chalky. LIMESTONE-80% light gray brown, earthy, argillaceous, lithographic, mudstone. 1670-1700 SHALE-50% red brown, silty, limy, earthy, mottled with anhydrite in part, slightly calcareous, marly. ANHYDRITE-10% white, crystalline, chalky. LIMESTONE-40% light gray brown, earthy, argillaceous, lithographic, mudstone. 1700-30 SHALE-60% red brown, silty, limy, earthy, mottled with anhydrite in part, slightly calcareous, marly. ANHYDRITE-20% white, crystalline, chalky. LIMESTONE-20% light gray brown, earthy, argillaceous, lithographic, mudstone. 1730-60 SHALE-70% red brown, silty, limy, earthy, mottled with anhydrite in part, slightly calcareous, marly. ANHYDRITE-10% white, crystalline, chalky. SILTSTONE-20% white, argillaceous, calcareous, gypsiferous. 1760-90 SHALE-20% red brown, brick red, silty & sandy, limy, earthy, mottled with anhydrite in part, slightly calcareous, marly. ANHYDRITE-10% white, crystalline, chalky. SILTSTONE-trace% white, argillaceous, calcareous, gypsiferous. LIMESTONE-10% light gray brown, earthy, argillaceous, lithographic, mudstone. 1790-1820 SHALE-80% red brown, silty, limy, earthy, mottled with anhydrite in part, slightly calcareous, marly. ANHYDRITE-20% white, crystalline, chalky.

1820-50 SHALE-20% red brown, silty, blocky, firm, calcareous. ANHYDRITE-10% white, crystalline, chalky. LIMESTONE-70% light gray, earthy, argillaceous, lithographic, mudstone. 1850-80 SHALE-20% red brown, silty, blocky, firm, calcareous. ANHYDRITE-10% white, crystalline, chalky. LIMESTONE-70% light gray, earthy, argillaceous, lithographic, mudstone. SHALE-30% red brown, silty, blocky, soft to firm, calcareous. 1880-1910 LIMESTONE-10% light gray, earthy, argillaceous, lithographic, mudstone. MARLSTONE-60% white, cream, chalky, soft, silty, sandy in part. 1910-40 SHALE-10% red brown, silty, blocky, soft to firm, calcareous. LIMESTONE-30% light gray, earthy, argillaceous, lithographic, mudstone. MARLSTONE-30% white, cream, chalky, soft, silty, sandy in part. ANHYDRITE-30% white, crystalline, chalky. 1940-70 LIMESTONE-80% light gray, earthy, argillaceous, lithographic, mudstone. MARLSTONE-10% white, cream, chalky, soft, silty, sandy in part. ANHYDRITE-10% white, crystalline, chalky. 1970-2000 ANHYDRITE-10% white, crystalline, chalky. LIMESTONE-90% light gray, earthy, argillaceous, lithographic, mudstone. 2000-30 ANHYDRITE-10% white, crystalline, chalky. LIMESTONE-90% light gray, earthy, argillaceous, lithographic, mudstone. 2030-60 SHALE-90% light gray, blocky, earthy, grades to argillaceous limestone, soft to firm, calcareous. ANHYDRITE-10% white, crystalline, chalky. 2060-90 ANHYDRITE-10% white, crystalline, chalky. LIMESTONE-90% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.

2090-2120	LIMESTONE-100% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.
2120-50	LIMESTONE-100% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.
2150-80	LIMESTONE-100% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.
2180-2210	LIMESTONE-100% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.
2210-40	LIMESTONE-100% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.
2240-70	LIMESTONE-90% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone. ANHYDRITE-10% white, chalky, crystalline, translucent, soft to firm.
2270-2300	SHALE-10% red brown, blocky, silty. LIMESTONE-90% light gray, earthy, calcite fracture in fill, argillaceous, lithographic, mudstone.
2300-30	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2330-60	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2360-90	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2390-2420	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2420-2450	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2450-80	No Sample

2480-2510	LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone. ANHYDRITE-10% white, chalky, crystalline, translucent, soft to firm.
2510-40	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2540-70	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2570-2600	LIMESTONE-80% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone. SILSTSONE-10% white, arenaceous, argillaceous, anhydritic. SHALE-10% red brown, silty, blocky, firm.
2600-30	LIMESTONE-80% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone. ANHYDRITE-20% white, silty, chalky, firm.
2630-60	LIMESTONE-80% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone. ANHYDRITE-20% white, silty, chalky, firm.
2660-90	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2690-2720	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.
2720-50	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, mudstone.
2750-80	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.
2780-2810	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-40% light gray, white, limy, arenaceous, argillaceous.
2810-40	LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-40% light gray, white, limy, arenaceous, argillaceous.

. •

2840-70 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-40% light gray, white, limy, arenaceous, argillaceous. 2870-2900 LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-20% light gray, white, limy, arenaceous, argillaceous. SHALE-10% red brown, mottled, slightly calcareous, blocky, firm. ANHYDRITE-10% white, soft, chalky. 2900-30 LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-20% light gray, white, limy, arenaceous, argillaceous. SHALE-10% red brown, mottled, slightly calcareous, blocky, firm. ANHYDRITE-10% white, soft, chalky. 2930-60 SHALE-10% red brown, mottled, slightly calcareous, blocky, firm. LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 2960-90 SHALE-10% red brown, mottled, slightly calcareous, blocky, firm. LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 2990-3020 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3020-50 SHALE-40% red brown, mottled, slightly calcareous, blocky, firm. LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3050-80 SHALE-40% red brown, mottled, slightly calcareous, blocky, firm. LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3080-3110 SHALE-60% red brown, mottled, slightly calcareous, blocky, firm. LIMESTONE-10% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-30% light gray, white, limy, arenaceous, argillaceous. 3110-40 SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-90% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm.

3140-70 SILTSTONE-30% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-70% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. 3170-3200 SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-40% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-50% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3200-30 SILTSTONE-40% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-50% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-10% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3230-60 SHALE-10% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3260-90 SILTSTONE-30% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-30% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-40% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, 3290-3320 argillaceous. LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3320-50 SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

SHALE-10% red brown, red, light blue green, varied color, mottled,

LIMESTONE-80% light to medium gray, blocky, earthy, argillaceous,

lithographic, abundant white calcite fracture fill, mudstone.

slightly calcareous, blocky, firm.

3350-80 SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-10% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-80% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3380-3410 SILTSTONE-30% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-10% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3410-40 SILTSTONE-20% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. SHALE-10% red brown, red, light blue green, varied color, mottled, slightly calcareous, blocky, firm. LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3440-70 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, 3470-3500 lithographic, abundant white calcite fracture fill, mudstone. 3500-30 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3530-60 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 3560-90 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly 3590-3620 calcareous, blocky, firm. LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

SILTSTONE-30% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

3680-3710 SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

ANHYDRITE-10% white, sucrosic, chalky, soft.

3710-40 SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

ANHYDRITE-10% white, sucrosic, chalky, soft.

3740-70 SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

LIMESTONE-80% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

3770-3800 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

3800-30 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

3830-60 SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

ANHYDRITE-10% white, sucrosic, chalky, soft.

٠,

LIMESTONE-50% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

- ANHYDRITE-10% white, sucrosic, chalky, soft.

 LIMESTONE-60% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 3890-3920 LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.
- 3950-80 LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 3980-4010 LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

- LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 4070-4100 LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 ANHYDRITE-10% white, sucrosic, crystalline.
- LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 4220-50 LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-50% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 SILTSTONE-20% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

4280-4310 LIMESTONE-90% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm. 4310-40 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 4340-70 LIMESTONE-100% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 4370-4400 LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm. SILTSTONE-20% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. LIMESTONE-70% light to medium gray, blocky, earthy, argillaceous, 4400-30 lithographic, abundant white calcite fracture fill, mudstone. SILTSTONE-30% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous. 4430-60 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, lithographic, abundant white calcite fracture fill, mudstone. 4460-90 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. 4490-4520 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. LIMESTONE-100% light to medium gray brown, dense, hard, crystalline 4520-50 in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. 4550-80 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

- 4580-4610 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 4610-40 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 4670-4700 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-70% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 SILTSTONE-20% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.
- LIMESTONE-80% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

4790-4820 LIMESTONE-80% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

> SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

> SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

4820-50 LIMESTONE-50% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

> SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

> SILTSTONE-10% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

ANHYDRITE-10% white, silty, chalky, soft.

4850-80 LIMESTONE-40% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

> SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

> SILTSTONE-20% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

ANHYDRITE-10% white, silty, chalky, soft.

4880-4910 LIMESTONE-60% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

> SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

> SILTSTONE-20% light gray, white, brown, dirty, tight, limy, arenaceous, argillaceous.

4910-40 LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

> SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

- LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5000-30 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5030-60 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- LIMESTONE-70% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 5090-5120 LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 5120-50 LIMESTONE-70% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-30% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

- 5180-5210 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. 5210-40 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. 5240-70 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. LIMESTONE-80% light to medium gray brown, dense, hard, crystalline 5270-5300 in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm. 5300-30 LIMESTONE-80% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm. 5330-60 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. LIMESTONE-80% light to medium gray brown, dense, hard, crystalline 5360-90 in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm. LIMESTONE-100% light to medium gray brown, dense, hard, crystalline 5390-5420 in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant
- 5420-50 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

white calcite fracture fill, mudstone.

- 5450-80 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5480-5510 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5510-40 LIMESTONE-100% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- LIMESTONE-30% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-50% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 ANHYDRITE-20% white, silty, chalky, soft.
- 5570-5600 LIMESTONE-60% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-40% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-30% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-60% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 ANHYDRITE-10% white, silty, chalky, soft.
- LIMESTONE-80% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

- 5690-5720 LIMESTONE-100% light to medium gray brown, very fine to microcrystalline, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5720-50 LIMESTONE-100% light to medium gray brown, very fine to microcrystalline, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5750-80 LIMESTONE-100% light to medium gray brown, very fine to microcrystalline, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.
- 5780-5810 LIMESTONE-30% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-60% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 ANHYDRITE-10% white, silty, chalky, soft.
- LIMESTONE-50% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-20% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.

 SILTSTONE-30% white, arenaceous, chalky, soft to firm.
- LIMESTONE-90% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

 SHALE-10% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
- 5890-5920 LIMESTONE-100% light to medium gray brown, very fine to microcrystalline, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone.

5920-50	LIMESTONE-20% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. SHALE-80% red brown, red, light gray, soft, limy, clay, mottled, slightly calcareous, blocky, firm.
5950-80	LIMESTONE-10% light to medium gray brown, dense, hard, crystalline in part, blocky, earthy, argillaceous, soft in part, lithographic, abundant white calcite fracture fill, mudstone. SALT-90% white, crystalline, translucent.
5980-6010	SALT-100% white, crystalline, translucent.
6010-40	SALT-100% white, crystalline, translucent.
6040-70	SALT-70% white, crystalline, translucent. SHALE-30% red brown, silty, firm, slightly calcareous.
6070-6100	SALT-100% white, crystalline, translucent.
6100-30	LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill.
6130-60	LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part.
6160-90	LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part.
6190-6220	LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part.
6220-50	LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part.

6250-80 LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part. 6280-6310 LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part. 6310-40 LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part. 6340-70 LIMESTONE-100% light brown, light gray brown, light gray, very fine to microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part. LIMESTONE-100% light brown, light gray brown, light gray, very fine to 6370-6400 microcrystalline, dense, hard, tight, argillaceous, earthy, mudstone, abundant light gray, white, crystalline calcite, fracture fill, marly in part. 6400-30 LIMESTONE-100% light gray brown, mottled, very fine microcrystalline, dense, mudstone to packstone, scattered oolites, grainstone in part, tight. 6430-60 LIMESTONE-100% light gray brown, mottled, very fine microcrystalline, dense, mudstone to packstone, shell fragments, scattered oolites, grainstone in part, tight. 6460-90 LIMESTONE-90% light gray brown, gray brown, mottled, chalky, shell fragments, very fine to microcrystalline, mudstone to packstone, scattered oolites, yellow gold fluorescence, brown oil stain on fracture faces, slow milky cut, thin residual ring. SANDSTONE-10% white, light gray, very fine to fine grained, sub angular, fair to well sorted, calcareous matrix and cement, tight, no show. 6490-6520 SANDSTONE-100% white, clear, quartzose, light brown, fine (lower) to fine (upper) grained, sub angular to rounded, fair to poor sorted, clay matrix, calcareous cement, friable, 10-14% intergranular porosity, 60% unconsolidated, fine (upper) to medium (upper) grained, yellow gold oil fluorescence, rainbows on the wash fluid, strong hydrocarbon odor, yellow to white milky cut fluorescence, yellow gold residual ring cut.

1

SANDSTONE-100% white, clear, quartzose, light brown, fine (lower) to fine (upper) grained, sub angular to rounded, fair to poor sorted, clay matrix, calcareous cement, friable, 10-14% intergranular porosity, 98% unconsolidated, fine (upper) to medium (upper) grained, yellow gold oil fluorescence, rainbows on the wash fluid, strong hydrocarbon odor, yellow to white milky cut fluorescence, yellow gold residual ring cut.

SHALE-40% red brown, silty, blocky, slightly calcareous.

ANHYDRITE-30% white, chalky, soft, sucrosic.

SANDSTONE-30% white, clear, quartzose, light brown, fine (lower) to fine (upper) grained, sub angular to rounded, fair to poor sorted, clay matrix, calcareous cement, friable, 10-14% intergranular porosity, 10% unconsolidated, fine (upper) to medium (upper) grained, yellow gold oil fluorescence, rainbows on the wash fluid, strong hydrocarbon odor, yellow to white milky cut fluorescence, yellow gold residual ring cut.

SHALE-30% red brown, silty, blocky, slightly calcareous.

ANHYDRITE-10% white, chalky, soft, sucrosic.

SANDSTONE-60% white, clear, quartzose, light brown, fine (lower) to fine (upper) grained, sub angular to rounded, fair to poor sorted, clay matrix, calcareous cement, friable, 10-14% intergranular porosity, 10% unconsolidated, fine (upper) to medium (upper) grained, yellow gold oil fluorescence, rainbows on the wash fluid, strong hydrocarbon odor, yellow to white milky cut fluorescence, yellow gold residual ring cut.

See Core Descriptions 1-3

SHALE-10% red brown, silty, sandy, blocky, slightly calcareous.

SILTSTONE-30% white, silty, sandy, soft to firm, chalky, slightly calcareous.

SANDSTONE-60% light brown, white, clear, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, dolomitic cement, tight, no to weak show.

6700-10 SILTSTONE-20% white, silty, sandy, soft to firm, chalky, slightly calcareous.

SANDSTONE-80% light brown, white, clear, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, dolomitic cement, tight, no to weak show.

3 1 1 W

6710-20 SHALE-10% red brown, silty, sandy, blocky, slightly calcareous. SILTSTONE-20% white, silty, sandy, soft to firm, chalky, slightly calcareous. SANDSTONE-70% light brown, white, clear, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, dolomitic cement, tight, no to weak show. 6720-30 SHALE-20% red brown, silty, sandy, blocky, slightly calcareous. SILTSTONE-50% white, silty, sandy, soft to firm, chalky, slightly SANDSTONE-40% light brown, white, clear, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, dolomitic cement, tight, no to weak show. 6730-40 SHALE-30% red brown, silty, sandy, blocky, slightly calcareous. SILTSTONE-40% white, silty, sandy, soft to firm, chalky, slightly calcareous. SANDSTONE-30% light brown, white, clear, very fine (upper) grained, sub angular, fair to well sorted, clay matrix, dolomitic cement, tight, no to weak show. 6739-6852 See Core Descriptions 4-6 6852-80 SANDSTONE-100% white, clear, quartzose, fine(lower) to medium (lower) grained, sub angular to rounded, 100% unconsolidated, abundant bit flour, no to weak show SANDSTONE-100% white, clear, quartzose, fine(lower) to medium 6880-6910 (lower) grained, sub angular to rounded, clay matrix, siliceous cement, friable, 98% unconsolidated, abundant bit flour, no to weak show 6910-40 SANDSTONE-100% white, clear, quartzose, very fine(upper) to medium (lower) grained, sub angular to rounded, clay matrix, siliceous cement, friable, 100% unconsolidated, abundant bit flour, no to weak show 6940-70 SANDSTONE-100% white, clear, quartzose, very fine(upper) to medium (lower) grained, sub angular to rounded, clay matrix, siliceous cement, friable, 100% unconsolidated, abundant bit flour, no to weak show 6970-7000 SANDSTONE-100% white, clear, quartzose, very fine(upper) to medium (lower) grained, sub angular to rounded, clay matrix, siliceous cement, friable, 100% unconsolidated, abundant bit flour, no to weak show

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

September 6, 2005

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Wolverine Federal 17-3 well Sec 17 T23S R01W

Sevier Co. UT API# 43-041-30036

BLM Lease No. UTU-73528

Dear Mr. Doucet,

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed our daily completion activity reports for the subject well. Wolverine's Grand Rapids, Michigan office will send final completion form(s). We respectfully request that the enclosed information remain confidential.

Very Truly Yours

Chris Nicely **Engineering Technician**

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC: Helene Bardolph

EXACT Engineering, Inc.

well file

RECEIVED SEP 0 9 2005

DIV. OF OIL, GAS & MINING

page 1 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs - 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ na GL to RKB: 17'

"TIGHT HOLE"

07/19/05

FIRST COMPLETION REPORT - during July cleaned location, installed 11" 5m x 7-1/16" 5m tbg head with (2) 2-1/16" 5m gate valves w/ single valve tree, move in 4% KCL treating fluid and flowback tanks. Offload 463 its of 2-7/8" 6.5ppf N80 EUE 8rd new tbg. MIRU Pool Well Service Unit @ 11am, ND wellhead & flowline, NU 7-1/16" 5m BOP, set up pipe racks & load with the & strap. Pick up 4-3/4" bit, 5-1/2" csg scraper, xo & pick up 154 jts tbg to 4764'. SWI & SDFN. Tomorrow's plan: Finish TIH & pickle tbg. CMOL: Darren Navior

Est Daily Completion Cost Est Cumulative Comp Cost

Est Dryhole Cost

Est Total Well Cost to date

(incl csg,FL,WH,tbg)

Completion AFE Dryhole AFE Total Well Cost AFE

07/20/05

Finish picking up 2-7/8" tbg. Tag up @ 7032' kb with 227 jts, set tbg 5' off btm, close rams, RU Halco to tbg. Hold safety mtg, pump tubular cleanup job consisting of 15 bbls caustic wash, 12 bbls chemical wash, 15 bbl gel water, 10 bbl FW spacer, 7 bbl 7.5% HCL. Displace down tbg with 80 bbl FW to surface, switch lines to csg, reverse hole with 200 bbl 4% KCL sending dirty acid water to pit. Hole clean after 140 bbls, RD Halco. RU swab, swabbed well down to 1400' fs, recv 31 BW. LD 9 its and stand back 218 its. SWI & SDFN. Tomorrow's plan: CBL, perf & run tools CMOL: Steve Hash

Est Daily Completion Cost Est Cumulative Comp Cost Est Dryhole Cost

Est Total Well Cost to date

Completion AFE Dryhole AFE Total Well Cost AFE



07/21/05

RU WellServ WLU & run cement bond log in 5-1/2 csg from logger's TD 7024' to top of cement at 4830' kb. Found marker joint at 6024 to 6046'. Perforated in two gun runs the (6) Upper Navajo 1 intervals listed below with 6 jpf (288 holes total) per Spectral Density - Dual Spaced Neutron log dated 22-Jan-2005. Used 4" slick gun, Titan 25 gm charges for .41" hole diam and 45" penetration, RD WLU. Make up 5-1/2" PIP assy w/ mech CCL & TIH to 6500', leave pkrs swinging and SWI & SDFN. Tomorrow's plan: Acidize CMOL: Steve Hash This am SITP 55 psig.

(1)	Upr Navajo 1	6590-6600	10	6 jpf	60	60	.41	45"
(2)	Upr Navajo 1	6615-6619	4	6 jpf	24	60	.41	45"
(3)	Upr Navajo 1	6632-6644	12	6 jpf	72	60	.41	45"
(4)	Upr Navajo 1	6654-6662	8	6 jpf	48	60	.41	45"
(5)	Upr Navajo 1	6671-6678	7	6 jpf	42	60	.41	45"
(6)	Upr Navajo 1	6702-6709	7	6 jpf	42	60	.41	45"
	total	119 gross	48		288			

Est Daily Completion Cost Est Cumulative Comp Cost Est Dryhole Cost Est Total Well Cost to date



Completion AFE Dryhole AFE Total Well Cost AFE



page 2 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs – 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ na GL to RKB: 17'

"TIGHT HOLE"

07/22/05

15hr SITP 55 psi, bled off. TIH w/ pkr assy and straddled perf set #6 6702-6709; RU Halco, QC 7-1/2% acid mix @ 1.15 sg and 4% KCI @ 1.04 sg, OK. Hold safety mtg & test P&L to 6000 psi. Spot 700 gal acid to pkr, hole load w 3 bbls, circ 30 BO off backside. Individually acidize each interval as follows:

#	Ft	Plan gals	Pmpd Gals	Break	BD bpm	ATR bpm	ATP psi	ISDP psi	5m psi	10m psi	15m psi	Comments
6	7	700	700	3930	, 2	4	3300	2350	1650	1504	1396	Tite
5	7	700	100	3300	1.5	na	Na	1300	Ĭ	1	Ī	Communicated
4	8	600	200	3100	2	na	Na	1350	1	1		Communicated
3	12	1200	200	3200	2	na	Na	1400		* *		Communicated
2	4	400	200	2600	.5	.8	2500	2300	1]		Tite
1	10	1000	500	3900	.5	2	2800	2150	800	,	1	No go-respot 500gal
		i	i	1	1	1	i	ì	1	i -	Ī	

Slight pkr leak on last zone, release pkrs and reset above all perfs w/ EOT @ 6546'. RU sandline overshot, retrieve SV from upper pkr. 81 BLWTR, RU to swab, BFL 400' fs, made 13 swab runs in 3 hrs, 1st oil cut on 5th run, 20%. Recovered 91 bbls fluid to tank. EFL 2900', pulling from 4500' fs, well trying to flow. SWI&SDFN. Plan: re-acidize 1,2,6 with 15% HCL. CMOL: Steve Hash This am SITP 400psi, flowed 4 BO in 1 hr by heads.

Est Daily Completion Cost
Est Cumulative Comp Cost

\$

07/23/05

9 hr SITP 400 psi, bled down, drop SV & tested pkr to 1000 psi. Released tools, reverse circulated oil from tbg w/ 40 bbls 4%, TIH & straddle zone 6, spot 400 gal 15% HCL, pkr would not hold, reverse acid into tbg, reset across zone 2, same results, across zone 1, same results, reset above all perfs and would not hold, POOH with PIP assy, 4 pkr elements missing. PU 5-1/2" HD pkr and TIH to 6530', establish IR @ 3bpm @ 2500 psi, pump 4600 gal 15% NeFeHCL w/ 500 ball sealers, ATR 3 bpm, ATP 2700 psi, max 2800 psi, no break. Flush w 60 bbls 4%, ISDP 2400 psi, 5 min 1800, 10min 1400, 15 min 1210. 176 BLWTR. RD Halco, flow back 15 bbl, RU swab, BFL zero, made 10 swab runs and recovered 103 BLW, last 2 runs show oil, EFL 1600', pulling from 3100'. Left open to tank overnight, 58 BLWTR. Well flowing in am CMOL: Steve Hash

Est Daily Completion Cost Est Cumulative Comp Cost

\$ \$

07/24/05

Left well open to tank at 11:30pm, well kicked off flowing during night and flowed 65 bbls fluid until 10am, last hr 75% oil, FTP zero. Continued to flow well on 24/64" chk w FTP zero from 10am til 4pm. Recovered 42 bbls, samples 100% oil, no water, well cleaned up @ 11am, avg 7 BOPH, reduced to 12/64" chk @ 4pm, FTP 50 psi. Released crew, flowed to tank overnight simulating line pressure. CMOL: Steve Hash Plan: run BHPBU.

Est Daily Completion Cost Est Cumulative Comp Cost



page 3 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs – 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ na GL to RKB: 17'

"TIGHT HOLE"

07/25/05

5am FTP 55psi on a 12/64" chk, rec 82 bbls in 12 hrs flowing, 100% oil samples, avg 6.8 bphr. Released pkr, reversed oil from tbg with 53 bbls KCl, well dead. POOH w/ 211 jts tbg & pkr, LD pkr, PU replacement 5-1/2" HD pkr, run perf tailpipe with digital BHP instruments in place, 2.25" SN min id, set pkr with EOT & gauges @ 6542' kb w 30k down. ND BOP, NU 3m adapter & tree, hook up flowlines and rig up swab. Swabbed 60 bbls fluid in 1-1/2 hrs, last sample 75% oil, EFL 1700', slight gas show, RD swab, RD rig while well building up. Move rig to WF 17-5 well. Pulled water off flow back tank, color cut tank @ 306 BO. Well kicked off flowing @ 4:30pm, flowed 38 BO in 4 hrs until 8:30pm (8,11, 8 & 11 bbls respectively). Reduced chk to 10/64" and monitored hourly overnight as follows:

Time	chk	ftp	Bbl per hr	Sample description & comments
9:30p	10/64	60	8	100% oil; slight show gas
10:30p	10/64	60	10	ditto
11:30p	10/64	60	6	ditto
12:30a	10/64	60	8	ditto
1:30a	10/64	60	7	ditto
2:30a	10/64	85	5	ditto
3:30a	10/64	90	8	Ditto
4:30a	10/64	90	5	ditto
5:00a	10/64	90	3	Ditto: shut well in @ 5:00am 7/26/05

Total daily recovery 108 BO. Plan: SWIFBHPBU CMOL: Steve Hash

Est Daily Completion Cost Est Cumulative Comp Cost \$

07/26/05 SWIFBHPBU @ 5am, 6am SITP 180, 7am SITP 230, 12pm SITP 270, 6pm SITP 380, 7am SITP 395

07/27/05 SWIFBHPBU, 7am SITP 395, 12pm SITP 410, 7pm SITP 420, 7am SITP 420
Plan to pull recorders on 7/29/05

07/28/05 SWIFBHPBU, 7am SITP 420, 7pm SITP 430

07/29/05 SWIFBHPBU, 7am SITP 430, RU PLS slickline, RIH & retrieve BHP recorder, leave well shut in.

Field readings: 2843 psi BHP and 183 degr F

Est Daily Completion Cost Est Cumulative Comp Cost



07/30/05 SITP 440 psi

07/31/05 SITP 440 psi

08/01/05 SITP 440 psi, installing flowline emulsion chemical pump and preparing to flow test well.

08/03/05 SITP 440 psi. Start flowing well on 10/64th chk w FTP 165 psi from 8am til 8pm. Recovered 92 bbls, samples 100% oil, no water in samples, avg 7.6 BOPH. Flowed to tank overnight, 8pm til 8am. Recovered 46 bbls samples 100% oil, no water in samples, avg 3.8 BOPH

EXACT Engineering, Inc. 415 S. Boston, Suite 734, Tulsa, OK 74103 (918) 599-9400

page 4 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs – 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ na GL to RKB: 17'

"TIGHT HO	LE" GL to RKB: 17'
08/04/05	Flow well on 12/64 th chk w FTP 50 psi from 8am til 8pm. Recovered 71 bbls, samples 100% oil, no water in samples, avg 5.9 BOPH. 8pm til 8am. FTP 40 psi Recovered 93 bbls samples 100% oil, no water in samples, avg 7.75 BOPH. Total daily recovery 164 BO
08/05/05	Flow well on 12/64 th chk w FTP 50 psi. Total daily recovery 174 BO
08/06/05	Flow well on 12/64 th chk w FTP 35 psi. Total daily recovery 172 BO
08/07/05	Flow well on 12/64 th chk w FTP 35 psi. Total daily recovery 184 BO
08/08/05	Flow well on 12/64 th chk w FTP 35 psi. Total daily recovery 176 BO
08/09/05	Flow well on 12/64 th chk w FTP 35 psi. Total daily recovery 153 BO. No water in samples.
	FIRST OIL SALES FROM WF17-3 TO HOLLY REFINERY ON 08/05/05 188 BO 41.2 API.
08/10/05	Total production to date 1311 BO. Total sales 898 bbl. Flow well on 12/64 th chk w FTP 35 psi. Total daily recovery 187 BO. No water in samples. Total production to date 1497 BO. Total sales 1200 bbl.
8/11/05	Flow well on 12/64 th chk w FTP 25 psi. Total daily recovery 213 BO. No water in samples. Total production to date 1710 BO. Total sales 1222 bbl.
8/12/05	Flow well on 12/64 th chk w FTP 0 psi. Total daily recovery 150 BO. No water in samples. Total production to date 1860 BO. Total sales 1535 bbl.
8/13/05	Flow well on open chk w FTP 0 psi. Total daily recovery 162.5 BO. No water in samples. Total production to date 2022 BO. Total sales 1646 bbl
8/14/05	Flow well on open chk w FTP 0 psi. Total daily recovery 200 BO. No water in samples. Total production to date 2222 BO. Total sales 1646 bbl
8/15/05	Flow well on open chk w FTP 0 psi. Total daily recovery 146 BO. No water in samples. Total production to date 2368 BO. Total sales 2109 bbl
8/16/05	Flow well on open chk w FTP 0 psi. Total daily recovery 145 BO. No water in samples. Total production to date 2513 BO. Total sales 2109 bbl
8/17/05	Flow well on open chk w FTP 0 psi. Total daily recovery 161 BO. No water in samples. Total production to date 2674 BO. Total sales 2236 bbl
8/18/05	No report
8/19/05	Flow well on open chk w FTP 0 psi. Total daily recovery 210 BO. 8.7 BPH

EXACT Engineering, Inc. 415 S. Boston, Suite 734, Tulsa, OK 74103 (918) 599-9400

Total production to date 2884 BO. Total sales 2272 bbl

page 5 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs – 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ na GL to RKB: 17'

"TIGHT HOLE"

8/20/05	Flow well on open chk w FTP 0 psi. Total daily recovery 212 BO. 8.8BPH Total production to date 3096 BO. Total sales 2566 bbl
8/21/05	Flow well on open chk w FTP 0 psi. Total daily recovery 144 BO. 6 BPH Total production to date 3240 BO. Total sales 2646 bbl
8/22/05	Flow well on open chk w FTP 0 psi. Total daily recovery 140 BO. 5.8 BPH Total production to date 3380 BO. Total sales 2957 bbl
8/23/05	Flowed 126 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3506 BO. Total sales 3098 bbl CMOL: SRHash
8/24/05	Flowed 129 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3635 BO. Total sales 3098 bbl CMOL: SRHash
8/25/05	Flowed 131 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3766 BO.
8/26/05	Flowed 112 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3878 BO
8/27/05	Flowed 110 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/28/05	Flowed 108 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/29/05	Flowed 104 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/30/05	Flowed 107 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/31/05	Flowed 72 BO & trace water in 16 hrs on open chk until 2pm 8/30, FTP 0 psi
09/01/05	Flowed 103 BO & trace water in 24 hrs on open chk from 2pm 8/30 to 2pm 8/31, FTP 0 psi
09/02/05	Flowed 112 BO & trace water in 24 hrs on open chk from 2pm 8/31 to 2pm 9/01, FTP 0 psi Total production to date 4594 BO (less some water drawoff); Total frac tank sales from inception on 8/5/05 thru 2pm 9/1/05 is 4051 BO. Sales report turned over to production staff.
09/03/05	Flowed 114 BO & trace water in 26 hrs on open chk from 2pm 9/01 to 4pm 9/02, FTP 0 psi Total production to date 4708 BO. Switched flow from frac tanks thru flowline to main battery. Production now allocated daily based on well test
09/04/05	Flowed 93 BO allocated thru main battery from 4pm 9/2 thru 2pm 9/3, FTP 20 psi on open chk
09/05/05	Flowed 104 BO allocated thru main battery from 2pm 9/3 thru 2pm 9/4, FTP 20 psi on open chk

EXACT Engineering, Inc. 415 S. Boston, Suite 734, Tulsa, OK 74103 (918) 599-9400

page 6 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs – 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ na GL to RKB: 17'

"TIGHT HOLE"

09/06/05

Switched well from main battery back to test tank at 2pm due to valve leak. Flowed 95 BO and tr wtr on open chk in 24 hrs to test tank from 2pm 9/4 to 2pm 9/5

EXACT Engineering, Inc.

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

CONFIDENTIAL PLEASE!

CONFIDENTIAL

September 19, 2005

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Wolverine Federal 17-3 well Sec 17 T23S R01W Sevier Co, UT API# 43-041-30036 BLM Lease No. UTU-73528

Dear Mr. Doucet.

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed our final daily completion activity reports for the subject well for August 20 through September 13, 2005. Wolverine's Grand Rapids, Michigan office will send final completion form(s). We respectfully request that the enclosed information remain confidential.

Very Truly Yours

Chris Nicely -

Engineering Technician

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC:

Helene Bardolph

EXACT Engineering, Inc.

well file

RECEIVED SEP 2 1 2005 DIV. OF CIL, GAS & MINING

page 6 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs – 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ 5478' md (5025' tvd) GL to RKB: 17'

"TIGHT HOLE"

09/06/05 Flowed 96 BO and tr wtr on open chk in 24 hrs to test tank from 2pm 9/4 to 2pm 9/5

09/07/05 Flowed 101 BO and tr wtr on open chk in 24 hrs to test tank from 2pm 9/5 to 2pm 9/6

CONFIDENTIAL

09/08/05 Switched well to main battery and flowed 97 BO and tr wtr on open chk in 24 hrs

09/09/05 Flowed 96 BO and tr wtr in 24 hrs on open chk to main battery

09/10/05 Flowed 58 BO and tr wtr in 16 hrs on open chk. SWI @

Flowed 58 BO and tr wtr in 16 hrs on open chk. SWI @ 6am 9/9. RU WSU, strip on BOP w/ annular, reversed tbg volume & released pkr, LD 35 jts tbg, POOH w/ 211 jts total, LD tools. RU Baker Centrilift to run ESP, pick up motor, seal & pump w/ 2.25 SN & TIH banding #4 cable 3 bands per jt, splice feed thru and land btm of tbg @ 5497' md. ND BOPE & NU wellhead. Complete tbg setting shown below. Hook up flowlines, air supply & shutdowns. Pump in operation and on test @ 11:00pm; monitor pump conditions and rates overnight, 112 BLWTR. Pumped 266 bbls fluid in 7 hrs on a 32/64" chk w/ 25 psi PTP, 51 hz. Pump down @ 6am on underload. Troubleshoot, est production at 132 BO & 134 BLW.

Production Tubing Setting - run in hole on 9/9/05

	Description	SN	Length	Top @ kb
1	4.50"od, 46hp, 770v,39a, FMH motor	21F-0068739	13.60	5483 md
1	4.00"od, FSB3 FER SS CV seal	31F-0071892	5.56	5478 md
1	4.00"od, type P8, model 400P, 147 stg pump w intake	01F-0007391	13.50	5464 md
1	2-3/8" x 2-7/8" EUE 8rd xover		.75	
1	2-7/8" EUE 8rd SN (2.25" min id)		1.10	5463 md
1	2-7/8" 6.5# N80 EUE 8rd handling sub		4.06	
176	2-7/8" 6.5# N-80 EUE 8rd tbg joints	Section 1999 and 1999	5441.52	
	Overall		5480.06	
	Set below KB (GL to KB = 17")	e Z	+17.0	
	EOT set @ KB		5497.06	
	EOT 5497'kb md; intake @ 5478'kb md (5025' tvd)			
	Note: there is NO check or drain valve in this well		1	1
				-

09/11/05

Manifold test tanks and restart well @ 1pm 9/10 on 24/64" chk, PTP 120 psi. Well pumped ½ hr and went down on underload again, reset min amps, pumped 396 bbls in 16 hrs until 6am 9/11 on 24/64" chk, 51 hz, samples 98% oil, tr wtr; est production at 388 BO & 8 BW, reduced chk to 18/64"

09/12/05

Pmpd 248 bbls fluid to test tank in 8 hrs on 18/64" to 12/64" chk from 6am 9/11 to 2pm 9/11, PTP 500 psi, running 51 hz. Estimate production at 243 BO & 5 BW; reduced chk to 9/64" @ 600 PSI ptp to reach target 450-500 BPD. Total estimated production to date is 6116 BO.

09/13/05

Pmpd 602 bbls fluid to test tank in 24 hrs on 9/64" chk from 2pm 9/11 to 2pm 9/12, PTP 550 – 650 psi, running 51 hz. Est production at 584 BO & 18 BW; some chk plugging on 9/64". total est production thru 9/12/05 @ 2pm is 6700 BO. water ph 7.0; water SG 1.012; oil gravity 41.6 API corrected. TURNED WELL OVER TO PRODUCTION @ 2pm 9/12/05 FINAL COMPLETION REPORT – Thank you!

EXACT Engineering, Inc. 415 S. Boston, Suite 734, Tulsa, OK 74103 (918) 599-9400

page 5 of 6

New Completion 5-1/2" 17# L80 @ 7100' TD PBTD 7046' on 1/24/05; CBL TD 7024' Perfs - 6590-6600; 6615-6619; 6632-6644; 6654-6662; 6671-6678; 6702-6709 on 7/21/05

ESP set @ 5478' md (5025' tvd) GL to RKB: 17'

"TIGHT HOLE"

8/20/05	Flow well on open chk w FTP 0 psi. Total daily recovery 212 BO. 8.8BPH Total production to date 3096 BO. Total sales 2566 bbl
8/21/05	Flow well on open chk w FTP 0 psi. Total daily recovery 144 BO. 6 BPH Total production to date 3240 BO. Total sales 2646 bbl
8/22/05	Flow well on open chk w FTP 0 psi. Total daily recovery 140 BO. 5.8 BPH Total production to date 3380 BO. Total sales 2957 bbl
8/23/05	Flowed 126 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3506 BO. Total sales 3098 bbl CMOL: SRHash
8/24/05	Flowed 129 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3635 BO. Total sales 3098 bbl CMOL: SRHash
8/25/05	Flowed 131 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3766 BO.
8/26/05	Flowed 112 BO & trace water in 24 hrs on open chk, FTP 0 psi Total production to date 3878 BO CONFIDENTIAL
8/27/05	Flowed 110 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/28/05	Flowed 108 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/29/05	Flowed 104 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/30/05	Flowed 107 BO & trace water in 24 hrs on open chk, FTP 0 psi
8/31/05	Flowed 72 BO & trace water in 16 hrs on open chk until 2pm 8/30, FTP 0 psi
09/01/05	Flowed 103 BO & trace water in 24 hrs on open chk from 2pm 8/30 to 2pm 8/31, FTP 0 psi
09/02/05	Flowed 112 BO & trace water in 24 hrs on open chk from 2pm 8/31 to 2pm 9/01, FTP 0 psi Total production to date 4594 BO (less some water drawoff); Total frac tank sales from inception on 8/5/05 thru 2pm 9/1/05 is 4051 BO. Sales report turned over to production staff.
09/03/05	Flowed 114 BO & trace water in 26 hrs on open chk from 2pm 9/01 to 4pm 9/02, FTP 0 psi Total production to date 4708 BO. Switched flow from frac tanks thru flowline to main battery. Production now allocated daily based on well test
09/04/05	Flowed 93 BO allocated thru main battery from 4pm 9/2 thru 2pm 9/3, FTP 20 psi on open chk
09/05/05	Flowed 104 BO allocated thru main battery from 2pm 9/3 thru 2pm 9/4, FTP 20 psi on open chk Switched well from main battery back to test tank at 2pm 9/4 due to valve leak EXACT Engineering, Inc. 415 S. Boston, Suite 734, Tulsa, OK 74103 (918) 599-9400 Petroleum Engineering Consulting, Personnel & Jobsite Supervision Complete well design, construction & management, drilling, completion, production, pipelines, evaluations, due diligence, acquisitions, procedures, temporary personnel and field supervision
	SEP 2 1 2005

					!											/	
			DEPAR	TMENT		TURA	LRESC					<u> </u>	(hiç	ghlight (REPORT V changes)	FOR	
			DIVISIO	ON OF	OIL,	GAS	AND I	MININ	G 				ι	JTU-7			t:
WELL COMPLETION OR RECOMPLETION REPORT AND LOG											6. IF	6. IF INDIAN, ALLOTTEE OR TRIBE NAME					
a. TYPE OF WELL	:	OI Wi	LL Z	- G	SAS VELL]	DRY		отн	ER					AGREEMENT NA		
b. TYPE OF WORK	·														E and NUMBER:	- OTH	
WELL Z	HORIZ.	DE EV	EP-	F	NTRY]	DIFF. RESVR.		отн	_{ER} Well	Comple	tion	\	Wolve	rine Federa	ıl 17-3	
NAME OF OPERA Wolverine		Oil C	ompan	y of U	Jtah, L	LC								РІ NUMBI 43041	ER: 30036		
3. ADDRESS OF OF 55 Campau	NW		ıтү Gra	ind Ra	apids	STATE	MI	ZIP 49	503		NUMBER: 6) 458-1	150			POOL, OR WILD	CAT	
4. LOCATION OF W AT SURFACE:	•		233' F	=WI					-	-					, SECTION, TOWN:	_ •	
AT TOP PRODU	•		•	_	62' EV	\/I	245215	-eı					SE	ENW	17 23\$	1W 24	•
				_	02 FV	VL Q Z	2132 1	SL					12.	COUNTY		13. STATE	
AT TOTAL DEPT		O DATE T			46 DAT	COMO	ETED:							evier	VATIONS (DE DI		TAH ———
12/10/2004		1/17/2		IED:		2005	ETEU:		ABANDON	ED	READY TO I	PRODUC	E 🗹		vations (df, rk 752,5753,5		
18. TOTAL DEPTH:	,,,		15	9. PLUG	BACK T.E		7,024		20. IF I	MULTIPLE CO	OMPLETIONS	s, HOW I	MANY? *		TH BRIDGE MI .UG SET:		
DO THE ELECTRIC	TVD 6.6		1041 100	C PUN (C	N. 6 16		6,479		<u> </u>	loo						'D	
22. TYPE ELECTRIC	CANDOTHER	MECHAN	IICAL LOG	S RUN (S	Submit cop	by of each	1)			23.	L CORED?		NO	п,	YES 🗸 (Su	amit analysis)	
see addend	um #1									WAS WELL			NO	=	=	omit analysis) omit report)	
										1	NAL SURVEY	(?	NO	==	- · · ·	omit copy)	
24. CASING AND LI	INER RECORI	(Report	all strings	set in we	əll) _												
HOLE SIZE	SIZE/GRA	DE	WEIGHT (GHT (#/ft.) TOP		P (MD) BOTTO				EMENTER PTH	CEMENT T NO. OF SA		SLUI		CEMENT TOP	* AMOUNT PU	JLLED
30	20		.25"w				12				class G	620			surface c	r	
17.5		1-40	65		0)		15			AG300	855	17	75	surface ci	r	
12.25	9 5/8 P	110	47		0)	5,8	328			50/50	730	18	36	3600 Ca		
8.5	5 1/2	L80	17				7,1	00	ļ		50/50	680	14	19	4,830 CB		
									<u> </u>				·				
5. TUBING RECOR	RD OR	<u> </u>					ļ <u>_</u> _		<u>. </u>		<u></u>	<u> </u>			<u> </u>		
SIZE	DEPTH S	ET (MD)	PACKE	R SET (M	AD)	SIZE		DEPTH	SET (MD)	PACKE	R SET (MD)		SIZE] [DEPTH SET (MD)	PACKER SET	(MD)
2 7/8	6.5	51															
6. PRODUCING IN	TERVALS		_					,		27. PERFO	RATION REC	ORD					
FORMATION	NAME	TOP	(MD)	вотто	M (MD)		(TVD)	вотто	M (TVD)	INTERVA	.L (Top/Bot - I	MD)	SIZE	NO. HOL	ES PERFO	RATION STATU	s
A) Navajo		6,4	198	7,1	50	5,9	975	6,6	603						Open 🔽	Squeezed]
В)															Open	Squeezed]
(C)															Open	Squeezed]
D)															Open	Squeezed]
28. ACID, FRACTU	RE, TREATME	NT, CEME	NT SQUE	EZE, ETC	>						 _						
DEPTH	INTERVAL								AM	T DNA TNUC	YPE OF MAT	ERIAL		P	CEIVE)	
6590-6709			7-1/2	% aci	d mix	@1.1	5 sg a	nd 4%	KCI @	1.04sg	Total -	1900	gal.	TI	OEIV-		
6590-6709										- 4600 g				ΙA	N 0 3 2006		
9. ENCLOSED AT	TACHMENTS:													. 05.0	UL GARSEN	New rus	

CONFIDENTIAL

Producing

☑ DIRECTIONAL SURVEY

DST REPORT

OTHER:

✓ GEOLOGIC REPORT

CORE ANALYSIS

✓ ELECTRICAL/MECHANICAL LOGS

SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

31. INITIAL PRODUCTION INTERVAL A (As shown in item #26) DATE FIRST PRODUCED: TEST DATE: HOURS TESTED TEST PRODUCTION BBL: GAS - MCF: WATER - BBL: PROD. METHOD: OIL RATES: 8/5/2005 8/5/2005 408 198 n **Flowing** CHOKE SIZE: CSG. PRESS. TBG. PRESS API GRAVITY INTERVAL STATUS: BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: RATES: 40.00 198 n n **Producing** open n n n INTERVAL B (As shown in item #26) DATE FIRST PRODUCED: TEST DATE: WATER - BBL: HOURS TESTED TEST PRODUCTION OIL - BBL: GAS - MCF PROD. METHOD: RATES: CHOKE SIZE: TBG. PRESS CSG. PRESS. API GRAVITY BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: INTERVAL STATUS: RATES: INTERVAL C (As shown in item #26) DATE FIRST PRODUCED: TEST DATE: HOURS TESTED TEST PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: PROD. METHOD: RATES: CHOKE SIZE: TBG. PRESS CSG. PRESS. API GRAVITY BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: INTERVAL STATUS: INTERVAL D (As shown in Item #26) DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION GAS - MCF: WATER - BBL: OIL - BBL: PROD. METHOD: RATES: CHOKE SIZE: TBG. PRESS API GRAVITY CSG PRESS BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: WATER - BBL: INTERVAL STATUS: GAS - MCF: RATES:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

Venting (gas too small to measure)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

34. FORMATION (Log) MARKERS:

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
Arapien	55	85	Sand & silt water		
Navajo	6,498	7,100	Sand	Arapien	0
Core	6,619	6,688	See Geologic Report	Twin Creek	6.114
Core	6,739	6,816	See Geologic Report	Navaio	6,498
Core	6,817	6,634	See Geologic Report		
		1			
		:			
	1	 			

35. ADDITIONAL REMARKS (Include plugging procedure)

Note: 50' logging tool w/ Cesium source left in hole from 7100'-7150'. 5 1/2" casing set at 7100', float shoe @ 7046'.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) John Vrana

TITLE Manager of Geology

DATE 8/23/2005

This report must be submitted within 30 days of

· completing or plugging a new well

- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- · reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

Send to: Utah I

SIGNATURE

Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

CONFIDENTIAL

^{*} ITEM 20: Show the number of completions if production is measured separately from two or more formations.

^{**} ITEM 24: Cement Top - Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).



WOLVERINE OPERATING COMPANY

of Utah, LLC

Energy Exploration in Partnership with the Environment

December 28, 2005

Ms. Diana Whitney Utah Division of Oil, Gas & Mining 1594 W. N. Temple, Suite 1210 Salt Lake City, UT 84114-5801

RE:

Wolverine Federal #17-2

Wolverine Federal #17-3 Wolverine Federal #8-1

Dear Ms. Whitney:

Enclosed please find completion forms with minor corrections made for each of the above referenced wells.

If you have any questions or concerns, please don't hesitate to contact me.

Sincerely,

Helene Bardolph

cc:

WF #17-2 (Well Log File)

WF #17-3 (Well Log File) WF #8-1 (Well Log File)

RECEIVED
JAN 0 3 2006

DIV. OF OIL, GAS & MINING